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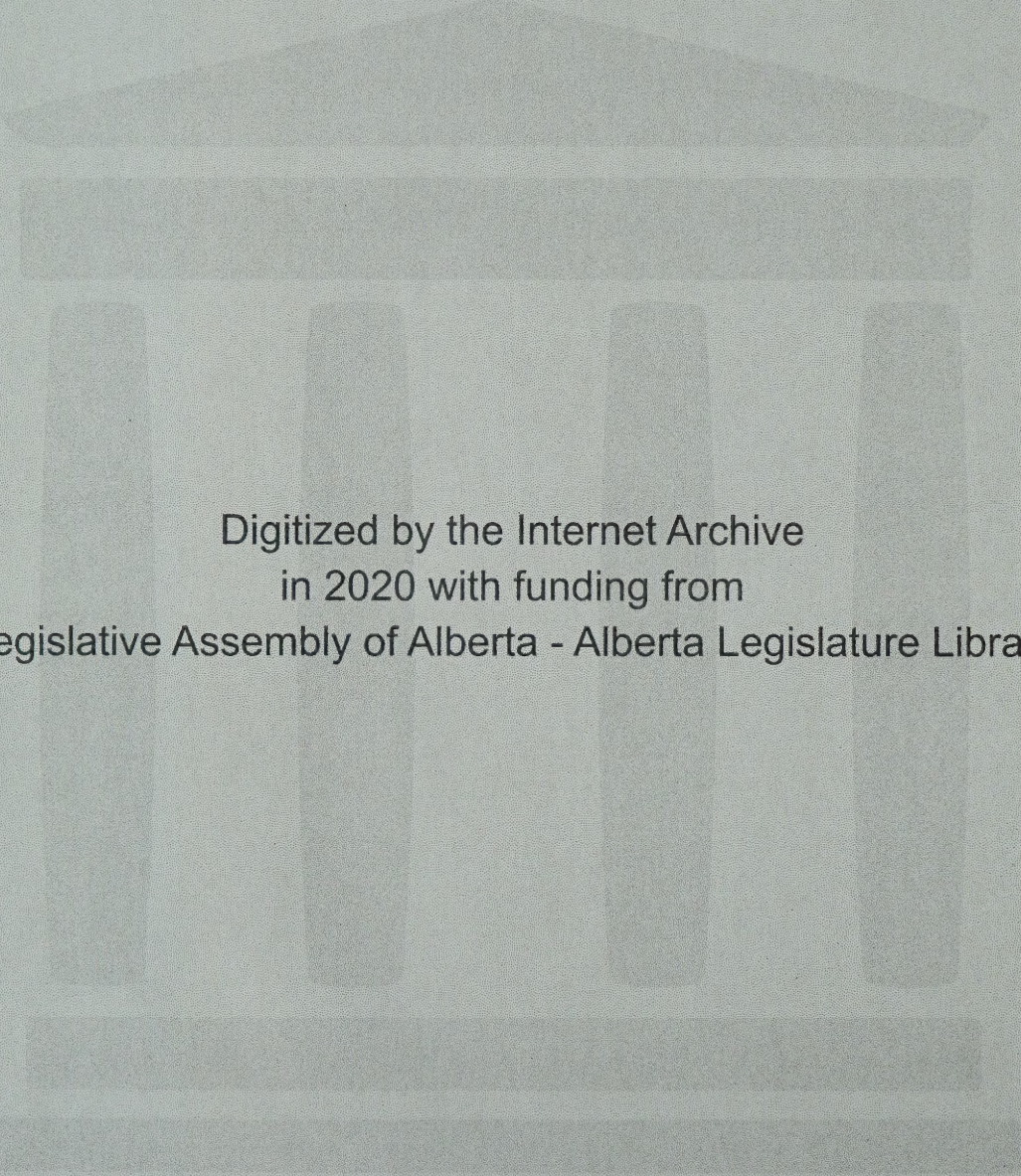


ANNUAL REPORT
OF THE
Department of Public Works
OF THE
PROVINCE OF ALBERTA
1962 - 63

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA

Printed by LEE S. WALL, Printer to the Queen's Most Excellent Majesty
1964



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THE HONOURABLE F. C. COLBORNE
Minister of Public Works

EDMONTON, October 1, 1963

To His Honour

J. PERCY PAGE,

Lieutenant Governor of the
Province of Alberta.

Sir:

The undersigned has the honour to submit herewith the Report of the Department of Public Works for the year ended March 31, 1963.

Respectfully submitted,

F. C. COLBORNE,

Minister of Public Works.



MR. ARTHUR ARNOLD
Deputy Minister of Public Works

DEPARTMENT OF PUBLIC WORKS

Edmonton, Alberta

October 1, 1963

TO:

The Honourable F. C. Colborne,
Minister,
Department of Public Works:
Sir:

I have the honour to submit herewith a report covering the activities of the Department of Public Works for the fiscal year ending March 31, 1963.

During this past year the Department undertook an extensive programme of construction and maintenance, the details of which are contained in this report. A number of photographs have been included to illustrate some of the more distinctive buildings that were under construction or completed in 1962-63.

The Mechanical Branch, which is responsible for the operation and maintenance of the power and heating plant steam services at eighteen Provincial Institutions, continued this year to expand its services.

The facilities of this Department have been made available to the Alberta Government Telephones and the Alberta Liquor Control Board. Numerous telephone exchanges throughout the Province have been designed by this Department and the work undertaken for the Alberta Liquor Control Board is listed elsewhere in this report.

Respectfully submitted,
ARTHUR ARNOLD,
Deputy Minister of Public Works.

THE FUNCTION OF THE DEPARTMENT OF PUBLIC WORKS

The Department of Public Works is required to provide suitable accommodation, the necessary furnishing and equipment to all Departments of the Government so that the Departments may carry out the various functions required of them. Such accommodation is provided in buildings rented, purchased or constructed by the Department of Public Works.

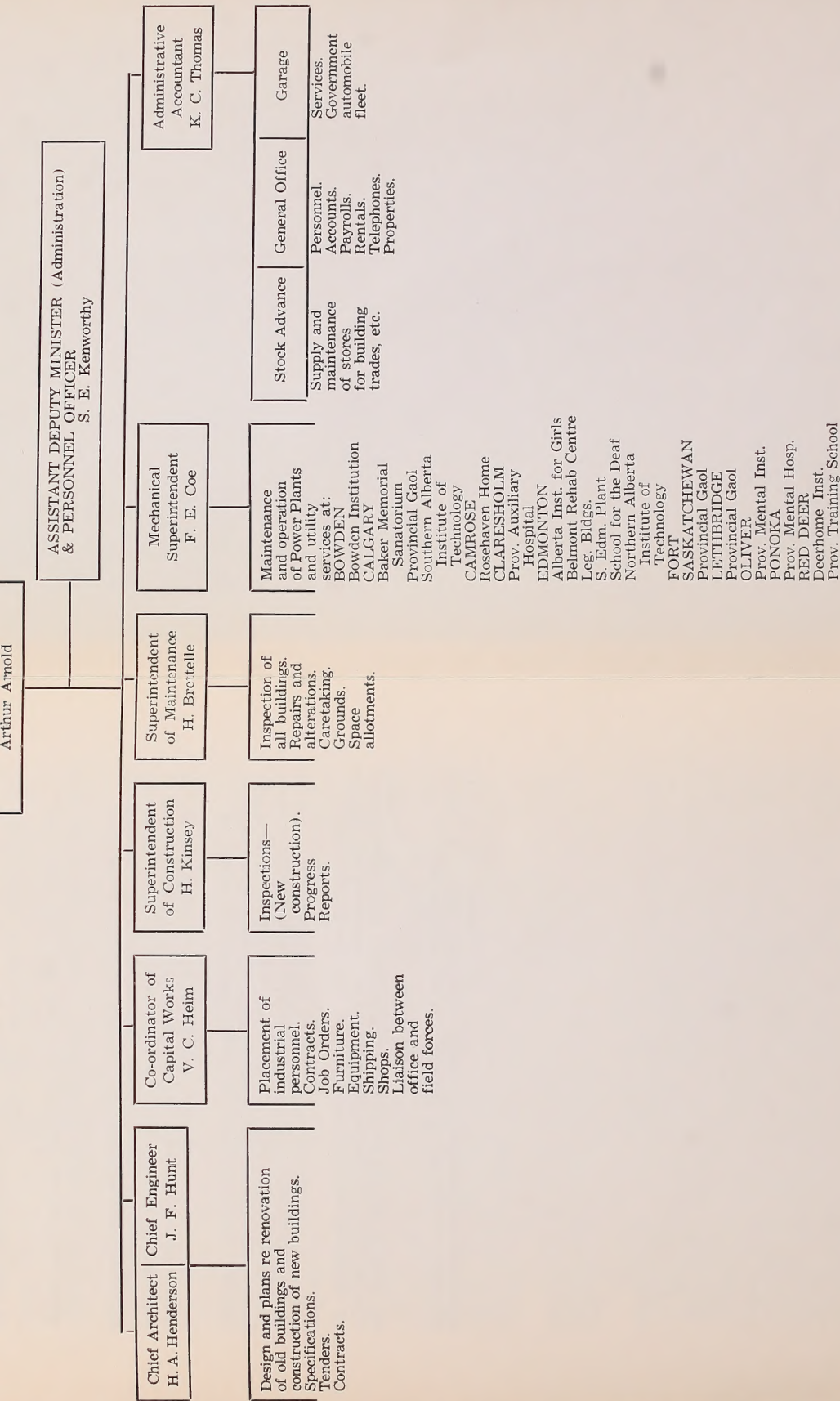
The Department is responsible for the construction of all Provincial Government Buildings.

The chief officials of the Department are:

Minister of Public Works	Hon. F. C. Colborne
Deputy Minister of Public Works	Mr. A. Arnold
Assistant Deputy Minister of Public Works (Administration)	Mr. S. E. Kenworthy
Chief Architect	Mr. H. A. Henderson
Chief Engineer	Mr. J. F. Hunt
Mechanical Superintendent	Mr. F. E. Coe
Administrative Accountant	Mr. K. C. Thomas
Superintendent of Maintenance	Mr. H. W. Brettelle
Superintendent of Construction	Mr. H. Kinsey
Co-ordinator of Capital Works	Mr. V. C. Heim
Property Administrator	Mr. E. E. Wilson

The Department is also responsible for the servicing and maintenance of all Provincial Government owned buildings, with the exception of various self-contained institutions, such as the Provincial Gaols, the Schools of Agriculture, and the University of Alberta. The maintenance and servicing of these buildings needs the services of a large group of men of assorted technical skills. Carpenters, plumbers, electricians and other tradesmen keep these buildings in good repair. Gardeners maintain the surrounding grounds which are quite extensive at some points, namely, the Provincial Mental Institute, Oliver and the Institute of Technology and Art, Calgary. Caretakers keep the buildings clean, men operate the elevators, and watchmen guard the buildings at night.

The extensive programme of construction which we are presently undertaking requires the services of a large staff of architects, engineers, draughtsmen, surveyors and building inspectors, who design and plan the buildings and supervise the work of the contractors. Some urgent and also minor construc-



tion work is undertaken by our own forces. Such work is kept to a minimum because it is the policy of the Department to have whatever construction work necessary done whenever possible by contractors. This requires Department to maintain a staff of tradesmen which is augmented by temporary staff as the requirements of the work necessitates.

The Department operates various trade shops where furniture and equipment such as laboratory benches, etc., are made.

A group of engineers, firemen and tradesmen working under the direction of the Mechanical Superintendent is responsible for the supply of electrical power, heat, water and sewage disposal at the eighteen largest institutions. These men also design, install and maintain the special equipment necessary.

At these institutions, farm machinery, milking, canning, laundry, kitchen and fire fighting equipment are also maintained and kept in good repair by the staff. The utilities and maintenance servicing of a large institution is comparable to the servicing of a town of two or three thousand people.

The Department also has a number of other functions, including the arrangements for the installation and rental of telephones, and when required the buying and leasing of lands for building sites.

A large modern garage located on the ground floor of Block "E", Terrace Building, Edmonton, services the automobile fleet of the Government.

CALLING OF TENDERS AND AWARDING OF CONTRACTS

Departments of the Government who need additional work space submit their space requirements to the Department of Public Works. If, in order to provide this additional space, a new building is deemed necessary, the Architectural Office effects liaison with the Department or Departments concerned and the actual space requirements and the purpose of the proposed building is determined. In co-operation with the Departments who will be housed in the building, preliminary plans are drawn and from such plans an estimate of the cost of construction is obtained. A sum of money is submitted in the annual estimates for the next fiscal year for approval by the Legislature. Needless to say, the actual amount of money requested is dependent upon the amount of construction that this Department estimates will be done in the following fiscal year. If actual construction is not expected in the following fiscal year, a nominal sum not exceeding \$10,000.00 is requested to cover preliminary investigations on the site which may include soil testing and/or line relocations.

The design and the basic construction materials of which the structure will be built are determined by the Deputy Minister in consultation with the Chief Architect and the Chief Engineer. Detailed plans are then drawn and submitted for approval to the Deputy Minister bearing the signature of the Chief Engineer and the Chief Architect. If approval is obtained from the Deputy Minister, the plans are submitted to the Minister of the Departments concerned and these Ministers are required to sign the plans. Finally, the plans are submitted to the Minister of the Department of Public Works for signature.

Advertisements calling for tenders are placed in the major newspapers throughout the Province, in Trade Papers and the various Builders' Exchanges and such advertisements usually run for a period of three days.

The size of the project under construction determines the length of the "tender period". All tenders are opened in public at two o'clock on a Thursday afternoon in the Conference Room of the Department of Public Works. The Department will consider the use of acceptable alternate materials to those specified during the "tender period" but applications for such alternate materials will not be accepted later than ten days prior to the closing date of tenders. No approval for the employment of alternate materials is considered after the contract has been awarded. Contracts for large projects are usually tendered in three parts: General, Electrical and Mechanical. The successful tenderers for the electrical and mechanical portions of the project are assigned as subcontractors to the successful tenderer for the general contract and the general contractor is paid 4% of the cost of the

electrical and mechanical contracts as a fee for administration, supervision and co-ordination of the entire project being constructed. When it is necessary to issue an addendum approving an alternate material or a change in design, such addendums are issued at least seven days prior to the closing of tenders and, incidentally, these addendums are sent by double registered mail to any contractor who has indicated his intention to bid on the project by obtaining plans and specifications from this office. The plans and specifications are available only to those firms registered in the Province of Alberta by the payment of a nominal deposit which is refunded when the plans and specifications are returned to the Department. Additional copies of the plans and specifications are also sent to the Builders' Exchanges in the major cities throughout the Province.

Each tenderer must submit with his tender a sum of not less than 10% of the total tender price. While such deposit is invariably by certified cheque, the Department would accept cash or Dominion of Canada Bearer Bonds. The question of accepting bid bonds is presently under consideration, however, such are not accepted during this current fiscal year. At the close of the tender opening, the tender deposits submitted by the two lowest tenderers are held pending a review of tenders. The lowest tender is checked carefully by the Chief Architect and the Chief Engineer to ensure that it complies with the specifications and that all sub-contractors are shown and that those shown are acceptable to the Department. A Bid Sheet is prepared and signed by the committee that opened the tenders and forwarded to the Minister of Public Works with a Press Release giving complete details. Following the Minister's approval, a letter of intent is forwarded by the Department to the successful tenderer advising that contract documents are being prepared for his signature. The contract documents are prepared in triplicate and forwarded to the contractor. When returned properly signed by the contractor, they are then signed by the Minister of Public Works and the contractor is notified that he may commence work.

When the successful contractor returns the signed contract documents to the Department he may substitute his certified cheque, which equals not less than 10% of the total tendered price, with 100% Material and Performance Bond. If he does not do this but leaves as a guarantee or security deposit the original certified cheque or replaces this cheque with Dominion of Canada Bearer Bonds equal to 10% of the total tendered price, the Department retains as a holdback 10% of the total of each progress estimate. However, if the contractor does substitute a 100% Material and Performance Bond for his original certified cheque, the Department retains 15% of the total of each progress estimate. It will thus be seen that when the contractor has completed the project, the Department has either:—

1. A certified cheque or Dominion of Canada Bearer Bonds equal to 10% of the total tendered price as a guarantee for the satisfactory completion of the contract and also a holdback equal to 10% of the total payments made by progress estimates, or
2. A 100% Material and Performance Bond as a guarantee for the satisfactory completion of the contract and also a holdback equal to 15% of the total payments made by progress estimates.

The Department makes an inspection of the completed project and if the contract has been completed to the satisfaction of the Department, payment of the monies held back from the payment of each progress estimate is made to the contractor 30 days later. If the project is not completed to the satisfaction of the Department, the payment of the monies held back from the payment of each progress estimate is withheld until all defects and deficiencies have been corrected.

Material and performance bonds expire one year after the acceptance of the project thus providing a guarantee for that period. If a certified cheque or Government of Canada bonds equal to 10% of the tender price has been deposited as a guarantee for the successful completion of the contract, the cheque or bonds are returned to the contractor one year after the completion of the project.

During the past year, the Alberta Builders' Exchange Council, which represents the building trades of Alberta, approached the Department with a request that the Department employ the services of the Alberta Bid Depository for all contracts exceeding \$100,000.00. The Alberta Bid Depository system was employed for the following contracts and proved reasonably satisfactory:

1. Erection and completion of a Structural Engineering Laboratory, University of Alberta, Edmonton.
2. Erection and completion of an Alberta Liquor Control Board Warehouse, Drumheller.

This system will be employed on all projects in the coming fiscal year.

The Alberta Bid Depository has been established:

- (a) To discourage sub-bidders from seeking or accepting information concerning a competitor's bid prior to closing of general contract tenders;
- (b) To discourage a bidder from informing any sub-bidder of any other sub-bidder's tender before the close of bidding;
- (c) To discourage the use of a sub-bidder's tender for the purpose of obtaining a lower proposal from another sub-bidder;
- (d) To encourage contractors to award each sub-contract to the qualified sub-contractor tendering the lowest price, or where the award is made to any other sub-contractor, to encourage the use of the latter's tendered price;
- (e) To promote the sanctity and reliability of all tenders.

TENDERS CALLED AND CONTRACTS AWARDED

THE FOLLOWING BIDS WERE OPENED IN PUBLIC AND CONTRACTS AWARDED DURING THE FISCAL YEAR WHICH ENDED MARCH 31st, 1963. Bids marked with an asterisk were withdrawn by the tenderer before this Department had forwarded a letter of acceptance to the bidder or were rejected by this Department because the bidder failed to comply with the regulations governing the submission of tenders. Where the low bid was withdrawn or rejected and the contract was awarded to the second lowest bidder, authority for so doing was obtained by Order of the Lieutenant Governor in Council.

CONTRACT TENDERED FOR AND TENDERERS AMOUNT BID

GRADING, GRAVELLING, ETC., FOR HOMES FOR THE AGED, BELVEDERE, ROSSLYN, McQUEEN & ELMWOOD (JASPER PLACE), EDMONTON.
April 12th, 1962

Everall Engineering Ltd.	\$ 13,447.60
Arthur A. Voice Construction Co. Ltd.	13,050.60
Nadon Paving Ltd. awarded	12,839.18

BASE COURSE AND PAVING, WEIGH SCALES, COUTTS, April 26th, 1962.

Peter Kiewit Sons Co. of Canada Ltd.	27,685.00
General Construction Co. (Alberta) Ltd.	26,725.00
Tollestrup Construction Co. Ltd.	19,821.00
Lewis & Wilson Excavating Contractors Ltd.	18,700.00
Everall Construction Ltd. awarded	18,480.00

CURBS, WALKS & PAVING, ADMINISTRATION BUILDING, LETHBRIDGE. April 26th, 1962.

Everall Construction Ltd.	20,623.45
Lewis & Wilson Excavating Contractors Ltd.	15,998.75
General Construction Co. (Alberta) Ltd. awarded	14,886.25
Tollestrup Construction Co. Ltd.	13,194.25*

GRADING, CURBING, PAVING, ETC., TERRACE BUILDING, LEGISLATIVE BUILDING GROUNDS, EDMONTON. May 3rd, 1962.

Everall Engineering Ltd.	133,197.15
W. C. Wells Construction Co. Ltd.	132,972.50
Arthur A. Voice Construction Co. Ltd.	123,368.00
Cressoy & Owen Construction Ltd.	120,230.64*
Pool Construction Co. Ltd. awarded	117,183.84

GRADING, GRAVELLING, ETC., HORTICULTURAL STATION, BROOKS. May 10th, 1962.

Lewis & Wilson Excavating Contractors Ltd. awarded	13,290.25
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CONTRACT TENDERED FOR AND TENDERERS AMOUNT BID

GRADING, PAVING, ETC., HIGHWAY WEIGH SCALES, CALGARY AREA. May 10th, 1962.

Standard Gravel & Surfacing of Canada	20,157.00
Gallelli & Sons Co. Ltd.	19,155.50
M & S Paving Ltd.	17,440.40
Everall Construction (Calgary) Ltd. awarded	15,768.00

GRADING, PAVING, ETC., UNIVERSITY OF ALBERTA, EDMONTON. May 10th, 1962.

W. C. Wells Construction Co. Ltd.	36,366.00
Fraser & Rice Construction Ltd.	31,880.50
Arthur A. Voice Construction Co. Ltd.	27,708.40
Everall Engineering Ltd.	25,866.65
O'Hanlon Paving Ltd.	24,886.05
Nadon Paving Ltd. awarded	23,384.75

SUPPLY AND INSTALLATION OF ONE ELECTRIC OIL HYDRAULIC PASSENGER ELEVATOR FOR DORMITORY #4, PROVINCIAL AUXILIARY HOSPITAL, CLARESHOLM. May 17th, 1962.

Turnbull Elevator of Canada Ltd.	16,160.00
Otis Elevator Co. Ltd.	14,540.00
T. E. Bate Engineering Ltd.	14,084.00
Peterson & Cowan Elevator Co. Ltd. awarded	12,339.00

ERECTION AND COMPLETION OF THE NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY (PHASE III), EDMONTON. May 17th, 1962.

GENERAL:

Pool Construction Co. Ltd.	2,897,332.00
Christensen & Macdonald Ltd.	2,780,872.00
McNamara Construction Western Ltd.	2,706,586.00
The Foundation Co. of Canada Ltd. awarded	2,645,737.00

ELECTRICAL:

Hume and Rumble Ltd.	789,886.00
Canadian Comstock Co. Ltd. awarded	739,686.00

MECHANICAL:

Canadian Comstock Co. Ltd.	1,458,855.00
Lockerbie & Hole Western Ltd. awarded	1,392,320.00

WEIGH SCALE PLATFORM PAVING AT BALZAC AND MIDNAPORE. May 31st, 1962.

Pioneer Paving Ltd.	2,410.00
Consolidated Concrete Ltd.	1,985.00
Everall Construction (Calgary) Ltd. awarded	1,740.00

AMOUNT BID **CONTRACT TENDERED FOR AND TENDERERS**

SUPPLY AND INSTALLATION OF RED QUARRY
TILE ON THE FLOORS OF THE KITCHEN AND
BAKERY, PROVINCIAL GAOL, LETHBRIDGE.
May 31st, 1962.

Hingley Terrazzo & Tile Ltd.	4,224.00
Alberta Marble & Tile Co. Ltd.	4,183.00
Capri Marble & Tile Co.	3,850.00
Lethbridge Monumental & Tile Works Ltd. awarded	2,295.00

SUPPLY AND INSTALLATION OF THREE ELECTRIC
OIL HYDRAULIC SERVICE ELEVATORS, NORTHERN
ALBERTA INSTITUTE OF TECHNOLOGY, EDMONTON.
June 7th, 1962.

Turnbull Elevator of Canada Ltd.	47,010.00
Otis Elevator Co. Ltd.	46,355.00
Peterson & Cowan Elevator Co. Ltd.	43,738.00
T. E. Bate Engineering Ltd. awarded	40,200.00

SUPPLY AND INSTALLATION OF A CEILING SYSTEM,
PROVINCIAL BUILDING, GRANDE PRAIRIE.
June 7th, 1962.

Dominion Sound Equipments Ltd.	3,676.00
F. Drexel Co. Ltd.	3,570.00
Western Asbestos (Alberta) Ltd. awarded	3,504.00

SUPPLY AND INSTALLATION OF THE TILE IN
KITCHEN AND BATHROOMS, PROVINCIAL MENTAL
INSTITUTE, OLIVER. June 7th, 1962.

Columbia Tile & Terrazzo Ltd.	7,833.00
M. L. Reeson & Co. Ltd.	7,470.00
Empire Marble & Tile Ltd.	7,100.00
"Bob" Candido's Tile & Terrazzo Co. Ltd. awarded	6,500.00

EXTENSION OF GRADING AND PAVING AT VARIOUS
PROVINCIAL GOVERNMENT INSTITUTIONS,
EDMONTON. June 7th, 1962.

W. C. Wells Construction Co. Ltd.	31,420.25
Arthur A. Voice Construction Co. Ltd.	26,829.50
Nadon Paving Ltd.	25,999.70
O'Hanlon Paving Ltd.	24,916.50
Everall Engineering Ltd. awarded	23,821.00

AMOUNT CONTRACT TENDERED FOR AND TENDERERS BID

GRADING, GRAVELLING AND PAVING EXTENSION,
DEERHOME INSTITUTION, RED DEER. July 5th, 1962.

Border Paving Ltd. awarded **8,016.00**

PAVING OF WEIGH SCALE PLATFORM, CLOVER
BAR. July 12th, 1962.

Nadon Paving Ltd. 1,140.00

Everall Engineering Ltd. 970.00

O'Hanlon Paving Ltd. 606.00

Ideal Paving & Construction Alberta
Ltd. awarded **515.40**

SUPPLY & ERECTION OF STRUCTURAL STEEL,
NUCLEAR RESEARCH CENTRE, UNIVERSITY OF
ALBERTA, EDMONTON. July 19th, 1962.

Dominion Bridge Co. Ltd. 24,472.00

Western Bridge Division, Canada Iron
Foundries Limited awarded **22,337.00**

ERECTION AND COMPLETION OF THE HOME FOR
THE AGED, CASTOR. July 26th, 1962.

GENERAL:

P. W. Graham & Sons Ltd. 133,857.00

Johnson Construction Co. Ltd. 128,646.00

New West Construction Co. Ltd. 126,948.00

Green Construction Co. Ltd. 125,482.00

Pool Construction Co. Ltd. 124,673.00

H. D. C. Construction Co. Ltd. awarded **121,000.00**

ELECTRICAL:

Western Electrical Contractors Ltd. 17,948.00

Warrack Electrical Ltd. 17,467.00

Young Electric (1961) Ltd. 15,986.00

R-D Electric Co. Ltd. awarded **14,503.00**

MECHANICAL:

A. J. Samuel Plumbing and Heating 51,102.00

The Bay Company (B.C.) Ltd. awarded **46,308.00**

ERECTION AND COMPLETION OF THE HOME FOR
THE AGED, OTTEWELL (EDMONTON).
July 26th, 1962.

GENERAL:

Bennett and White Alberta Ltd. 326,736.00

Poole Construction Co. Ltd. 319,014.00

Alta-West Construction Co. Ltd. awarded **310,579.00**

ELECTRICAL:

Western Electrical Constructors Ltd. 36,978.00

Young Electric (1961) Ltd. awarded **35,963.00**

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
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MECHANICAL:

Meccon Installations Ltd.	93,876.00
D. A. Wells Plumbing & Heating Ltd. .	87,183.00
Economy Plumbing Ltd. awarded	80,847.00

**ERECTION AND COMPLETION OF THE HOME FOR
THE AGED, LEDUC. July 26th, 1962**

GENERAL:

Camwil Construction Ltd.	128,982.00
P. W. Graham & Sons Ltd.	126,785.00
New West Construction Co. Ltd.	125,932.00
Poole Construction Co. Ltd. awarded	125,394.00

ELECTRICAL:

Western Electrical Constructors Ltd.	16,898.00
Young Electric (1961) Ltd. awarded	14,876.00

MECHANICAL:

The Bay Company (B.C.) Ltd.	44,290.00
D. A. Wells Plumbing & Heating Ltd. .	44,204.00
Economy Plumbing Ltd. awarded	41,714.00

**ERECTION AND COMPLETION OF THE HOME FOR
THE AGED, PROVOST. July 26th, 1962.**

GENERAL:

P. W. Graham & Sons Ltd.	136,233.00
Alta-West Construction Ltd.	134,118.00
Sturgeon Construction Co. Ltd.	130,800.00
Prism Construction Co. Ltd.	127,900.00
Poole Construction Co. Ltd.	127,771.00
Johnstone Lumber Co. Ltd. awarded	119,836.00

ELECTRICAL:

Turner Electric	21,700.00
Iverson Electric Ltd.	19,290.00
Western Electrical Constructors Ltd.	17,848.00
Young Electric (1961) Ltd.	15,986.00
R-D Electric Co. Ltd. awarded	14,753.00

MECHANICAL:

The Bay Company (B.C.) Ltd. awarded	45,828.00
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**ERECTION AND COMPLETION OF THE HOME FOR
THE AGED, SMOKY LAKE. July 26th, 1962.**

GENERAL:

P. W. Graham & Sons Ltd.	129,145.00
Sturgeon Construction Co. Ltd.	127,490.00
Alta-West Construction Ltd.	124,618.00
Poole Construction Co. Ltd. awarded	123,404.00

AMOUNT BID

CONTRACT TENDERED FOR AND TENDERERS

ELECTRICAL:

Western Electrical Constructors Ltd.	16,348.00
Walt's Electric	14,772.00
Young Electric (1961) Ltd. awarded	14,590.00

MECHANICAL:

St. Paul Foundry Ltd.	47,500.00
The Bay Company (B.C.) Ltd.	46,546.00
Smoky Lake Plumbing & Heating	45,303.00
Economy Plumbing Ltd. awarded	43,033.00

ERECTION AND COMPLETION OF THE HOME FOR THE AGED, STRATHMORE. July 26th, 1962.

GENERAL:

Bird Construction Co. Ltd.	134,069.00
Johnson Construction Co. Ltd. awarded	123,099.00

ELECTRICAL:

Western Electrical Constructors Ltd.	17,498.00
Warrack Electric Ltd. awarded	16,868.00

MECHANICAL:

Whitticks' Mechanical Contractors Ltd. awarded	44,275.00
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ERECTION AND COMPLETION OF THE HOME FOR THE AGED, TABER. July 26th, 1962.

GENERAL:

D. and H. Construction Ltd.	134,666.00
Modrzyewiski Construction Ltd.	133,560.00
Bird Construction Co. Ltd.	129,975.00
Adamix Concrete & Construction Co. Ltd.	124,891.00
Southern Alberta Construction Ltd.	121,240.00
Johnson Construction Co. Ltd. awarded	120,075.00

ELECTRICAL:

Western Electrical Constructors Ltd.	17,588.00
Southern Electrical Craftsmen Ltd.	16,398.00
Parson's Commercial Electric Ltd.	14,916.00
Pink and Chiste Electric awarded	14,410.00
Bill's Electric	13,750.00*

MECHANICAL:

Paul's Plumbing & Heating Ltd.	45,392.00
Whitticks' Mechanical Contractors Ltd. awarded	42,610.00

SUPPLY AND INSTALLATION OF ONE ELECTRIC OIL HYDRAULIC FREIGHT ELEVATOR, NUCLEAR RESEARCH CENTRE, UNIVERSITY OF ALBERTA, EDMONTON. July 26th, 1962.

T. E. Bate Engineering Ltd.	15,900.00
Turnbull Elevator of Canada Ltd.	15,325.00
Otis Elevator Co. Ltd.	14,685.00
Peterson & Cowan Elevator Co. Ltd. awarded	14,289.00

CONTRACT TENDERED FOR AND TENDERERS **AMOUNT BID**

GRADING, PAVING AND RELATED WORK,
NORTHERN ALBERTA INSTITUTE OF TECH-
NOLOGY, EDMONTON.
July 26th, 1962.

The Foundation Co. of Canada Ltd.	314,784.60
Poole Construction Co. Ltd.	310,273.47
Everall Engineering Ltd.	297,499.40
O. K. Construction Ltd.	293,619.80
Arthur A. Voice Construction Co. Ltd.	288,217.00
W. C. Wells Construction Co. Ltd.	287,714.00
Nadon Paving Ltd. awarded	265,900.68

STRUCTURAL STEEL FRAMEWORK, LIBRARY,
UNIVERSITY OF ALBERTA, EDMONTON.
August 9th, 1962.

A.I.M. Steel Ltd.	510,000.00
Hectors Ltd.	499,875.00
Dominion Bridge Co. Ltd., Alberta Branch . . .	465,432.00
Western Bridge Division, Canada Iron Foundries Ltd. awarded	459,286.00

STRUCTURAL STEEL FRAMEWORK, LIBRARY,
UNIVERSITY OF ALBERTA, CALGARY.
August 9th, 1962.

Western Bridge Division, Canada Iron Foundries Ltd.	385,450.00
Dominion Bridge Co. Ltd.	376,500.00
Hectors Ltd. awarded	364,647.00

EXTENSION OF WATER DISTRIBUTION SYSTEM,
BOWDEN INSTITUTION, BOWDEN.
August 9th, 1962.

Beckly Campbell Co. Ltd.	8,870.54
Kure & Telfer Construction Ltd. awarded	7,248.00

FOOTINGS AND FOUNDATIONS, LIBRARY,
UNIVERSITY OF ALBERTA, EDMONTON.
August 16th, 1962.

Bennett and White Alberta Ltd.	230,538.00
Bird Construction Co. Ltd.	215,601.00
McNamara Construction Western Ltd.	203,288.00
Burns & Dutton Concrete & Construction Co. Ltd.	196,990.00
Poole Construction Co. Ltd.	193,971.00
Perini (Western) Ltd.	183,350.00
Christensen and Macdonald Ltd. awarded	169,987.00

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
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**FOOTINGS AND FOUNDATIONS, LIBRARY,
UNIVERSITY OF ALBERTA, CALGARY.**

August 16th, 1962.

Bennett and White Alberta Ltd.	209,250.00
Bird Construction Co. Ltd.	197,646.00
Burns & Dutton Concrete & Construction Co. Ltd.	196,580.00
The Foundation Co. of Canada Ltd.	189,889.00
Poole Construction Co. Ltd.	188,000.00
Christensen and Macdonald Ltd.	183,712.00
Sam Hashman and Co. Ltd.	awarded 174,616.00

**SUPPLY AND ERECTION OF AN INDUSTRIAL CRANE,
NUCLEAR RESEARCH CENTRE, UNIVERSITY OF
ALBERTA, EDMONTON. August 23rd, 1962.**

Fred S. Tappenden Ltd. awarded **17,979.07**

**SUPPLY AND ERECTION OF SPECIAL EQUIPMENT,
NUCLEAR RESEARCH CENTRE, UNIVERSITY OF
ALBERTA, EDMONTON. August 30th, 1962.**

Fred S. Tappenden Ltd. awarded **9,591.00**

**MECHANICAL WORK AND STEAM TURBINE PIPING,
SOUTH POWER PLANT, UNIVERSITY OF ALBERTA,
EDMONTON. September 13th, 1962.**

Lockerbie and Hole Western Ltd.	36,438.00
Wirtanen Electric Co. Ltd.	33,933.00
Canadian Comstock Co. Ltd.	awarded 32,951.00

**GRADING, PAVING AND RELATED WORK, HOME FOR
THE AGED, JACQUES SITE (CALGARY).**

September 20th, 1962.

Standard Gravel and Surfacing of Canada Ltd.	111,002.00
Pioneer Paving Ltd.	102,634.50
Gallelli and Sons Co. Ltd.	102,106.00
Everall Construction (Calgary) Ltd.	96,163.40
M. and S. Paving Ltd.	awarded 91,155.00

**ERECTION AND COMPLETION OF THE PINEVIEW
HOME, JASPER PLACE (EDMONTON).**

September 27th, 1962.

GENERAL:

American Homes (Edmonton) Ltd.	319,000.00*
Stuart Olson Ltd.	286,144.00
Norman Nilsen Construction Ltd.	285,987.00
Poole Construction Co. Ltd.	284,436.00
Camwil Construction Ltd.	282,757.00
Bird Construction Co. Ltd.	282,282.00
Bennett and White Alberta Ltd.	279,972.00
Burns & Dutton Concrete & Construction Co. Ltd.	277,500.00
McNamara Construction Western Ltd.	awarded 266,129.00

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
ELECTRICAL:	
Commercial Electric Co. Ltd.	27,951.00
Nixon Electric Ltd.	27,688.00
Young Electric (1961) Ltd.	27,366.00
Paramount Electric (Alberta) Ltd.	25,956.00
Hillas Electric Co. Ltd.	25,350.00
Western Electrical Constructors Ltd. awarded	24,947.00
MECHANICAL:	
Haddow and Maughan Ltd.	101,900.00
The Bay Company (B.C.) Ltd.	100,521.00
Mercier and Germaine Co. Ltd.	99,138.00
B. A. Moir	96,491.00
Mecon Installations Ltd.	94,567.00
Accurate Plumbing Ltd.	91,580.00
Economy Plumbing Ltd. awarded	90,986.00
ERECTION AND COMPLETION OF THE GYM- NASIUM, SOUTHERN ALBERTA INSTITUTE OF TECHNOLOGY, CALGARY. September 27th, 1962.	
GENERAL:	
Bennett and White Alberta Ltd.	491,523.00
The Foundation Co. of Canada Ltd.	488,774.00
Poole Construction Co. Ltd.	482,173.00
Burns & Dutton Concrete Construction Co. Ltd.	472,600.00
Borger Structures Ltd.	469,300.00
Bird Construction Co. Ltd. awarded	448,948.00
ELECTRICAL:	
Warrack Electric Ltd.	62,138.00
Johnson Bros. Electric Co. Ltd.	61,585.00
Canadian Comstock Co. Ltd.	59,943.00
Industrial Power Installations Ltd.	58,750.00
Wilf Got Electric (Calgary) Ltd.	57,100.00
Hume & Rumble Ltd. awarded	55,265.00
MECHANICAL:	
Trotter and Morton Ltd.	166,628.00
Lockerbie and Hole Western Ltd.	158,318.00
Mecon Installations Ltd.	153,967.00
Canadian Comstock Co. Ltd.	153,290.00
Anderson Plumbing Co. Ltd. awarded	149,000.00
ERECTION AND COMPLETION OF A HIGHWAY MAINTENANCE GARAGE, HILDA. September 27th, 1962.	
F. Wahl Construction Ltd.	49,866.00
Johnson Construction Co. Ltd.	43,300.00
D. and H. Construction Ltd.	42,691.00
Poole Construction Co. Ltd.	42,040.00
Bird Construction Co. Ltd.	40,355.00
Paul Stober Construction Ltd. awarded	39,937.00

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
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ERECTION AND COMPLETION OF A HIGHWAY
MAINTENANCE GARAGE, TABER. September 27th, 1962.

Johnson Construction Co. Ltd.	53,100.00
Southern Alberta Construction Ltd.	50,907.00
Poole Construction Co. Ltd.	50,680.00
Bird Construction Co. Ltd.	46,612.00
Balbi Construction Ltd.	41,782.00
S. Arias (Spanish) Construction awarded	40,000.00
Adamix Concrete and Construction	32,350.00*

SUPPLY AND INSTALLATION OF TILEWORK IN
VARIOUS AREAS, ROSEHAVEN, CAMROSE.
September 27th, 1962

M. L. Reeson & Co. Ltd.	8,495.00
Columbia Tile & Terrazzo Ltd.	8,306.00
"Bob" Candido's Tile & Terrazzo Co. Ltd.	7,850.00
Empire Marble & Tile Ltd. awarded	7,400.00

ERECTION AND COMPLETION OF A HIGHWAY
MAINTENANCE GARAGE, SMITH. October 25th, 1962.

Norseman Construction Co.	44,858.00
R. P. Robinson Contractors & Builders Ltd.	43,931.00
Byrnes and Hall Construction Ltd.	43,278.00
Camwil Construction Ltd.	42,975.00
Sturgeon Construction Ltd.	42,924.00
Prism Construction Co. Ltd.	42,427.00
McRae and Associates Construction Ltd.	40,568.00
Parkins Construction Ltd. awarded	40,500.00
Lance Construction Ltd.	35,943.00*

SUPPLY AND INSTALLATION OF THREE
ELECTRIC PASSENGER ELEVATORS AND TWO
ELECTRIC DUMB-WAITERS, LIBRARY, UNI-
VERSITY OF ALBERTA, EDMONTON.
November 22nd, 1962.

T. E. Bate Engineering Ltd.	107,495.00
Peterson and Cowan Elevator Co. Ltd.	97,613.00
Turnbull Elevator of Canada Ltd.	94,230.00
Otis Elevator Co. Ltd. awarded	92,555.00

SUPPLY AND INSTALLATION OF THREE PASSENGER
ELEVATORS, LIBRARY, UNIVERSITY OF ALBERTA,
CALGARY. November 22nd, 1962.

T. E. Bate Engineering Ltd.	92,326.00
Peterson & Cowan Elevator Co. Ltd.	85,612.00
Otis Elevator Co. Ltd.	84,720.00
Turnbull Elevator of Canada Ltd. awarded	82,300.00

CONTRACT TENDERED FOR AND TENDERERS **AMOUNT BID**

SEWAGE LIFT STATION AND SEWAGE FORCE
MAIN, DEERHOME INSTITUTION, RED DEER
December 13th, 1962.

Sturgeon Valley Development Ltd.	79,682.00
Borger Brothers Ltd.	72,285.00
McNamara Construction Western Ltd. . . .	60,479.00
Poole Construction Co. Ltd.	54,750.00
G. C. McLeod & Co. Ltd.	53,862.62
Lance Construction Ltd.	48,939.00
Alta-West Construction Ltd.	46,132.00
Everall Construction Ltd.	43,355.00
Parkins Construction Ltd.	41,576.00
Burns & Dutton Construction (1962) Ltd.	awarded 41,103.00

ERECTION AND COMPLETION OF THE LIBRARY,
UNIVERSITY OF ALBERTA, EDMONTON.
December 20th, 1962.

GENERAL:

Alta-West Construction Ltd.	1,373,826.00
The Foundation Co. of Canada Ltd. . . .	1,360,023.00
Bennett and White Alberta Ltd.	1,307,000.00
Poole Construction Co. Ltd.	1,283,542.00
McNamara Construction Western Ltd.	1,263,811.00
Bird Construction Co. Ltd.	1,246,642.00
Universal Construction Co. Ltd.	1,238,673.00
Christensen & Macdonald Construction Ltd. .	1,206,756.00
Burns & Dutton Construction (1962) Ltd.	awarded 1,189,200.00

ELECTRICAL:

Hillas Electric Co. Ltd.	307,229.00
Hume & Rumble Ltd.	303,880.00
Canadian Comstock Co. Ltd.	299,992.00
Industrial Power Installations Ltd.	297,459.00
Wilf Got Electric Ltd.	293,890.00
Young Electric (1961) Ltd.	awarded 284,949.00

MECHANICAL:

Economy Plumbing Ltd.	768,000.00
Haddow & Maughan Ltd.	749,000.00
Meccon Installations Ltd.	729,825.00
Canadian Comstock Co. Ltd.	724,950.00
Lockerbie & Hole Western Ltd.	awarded 708,630.00

CONTRACT TENDERED FOR AND TENDERERS

AMOUNT BID

ERECTION AND COMPLETION OF THE LIBRARY,
UNIVERSITY OF ALBERTA, CALGARY.
December 20th, 1962.

GENERAL:

Christensen & Macdonald Construction Ltd.	1,517,000.00
Bennett and White Alberta Ltd.	1,481,141.00
The Foundation Co. of Canada Ltd.	1,472,166.00
Universal Construction Co. Ltd.	1,464,040.00
Poole Construction Co. Ltd.	1,461,000.00
Bird Construction Co. Ltd.	1,434,898.00
Sam Hashman & Co. Ltd.	1,341,298.00
Burns & Dutton Construction (1962) Ltd.	awarded 1,328,285.00

ELECTRICAL:

Dickie's Electric Ltd.	324,968.00
Hume & Rumble Ltd.	315,590.00
Industrial Power Installations Ltd.	303,750.00
Canadian Comstock Co. Ltd.	awarded 294,990.00

MECHANICAL:

Canadian Comstock Co. Ltd.	648,950.00
Lockerbie & Hole Western Ltd.	awarded 647,320.00

ERECTION AND COMPLETION OF AN ADDITION
TO THE SCHOOL HOUSE, PROVINCIAL TRAINING
SCHOOL, RED DEER. January 3rd, 1963.

Burns & Dutton Construction (1962) Ltd.	101,975.00
Alta-West Construction Ltd.	100,978.00
Camwil Construction Ltd.	99,919.00
Poole Construction Co. Ltd.	99,297.00
P. W. Graham & Sons Ltd.	97,531.00
Harsim Construction Ltd.	awarded 95,400.00

SUPPLY AND INSTALLATION OF QUARRY TILE
FLOOR AND BASE IN KITCHEN & FOOD
PREPARATION ROOM, SINGLE MEN'S HOSTEL,
EDMONTON. January 17th, 1963.

"Bob" Candido's Tile & Terrazzo Co. Ltd.	2,699.00
Reeson Tile & Terrazzo Ltd.	2,595.00
Empire Marble & Tile Ltd.	2,454.00
Columbia Tile & Terrazzo Ltd.	awarded 2,122.00

AMOUNT BID **CONTRACT TENDERED FOR AND TENDERERS**

EXTENSION OF WATER AND SEWER LINES,
PROVINCIAL TRAINING SCHOOL, RED DEER.
February 21st, 1963.

Everall Construction Ltd.	78,147.25
Burns & Dutton Construction (1962) Ltd.	77,788.00
Poole Engineering (1958) Ltd.	71,759.75
Expert Ditchers Co. Ltd.	68,760.50
G. C. McLeod & Co. Ltd.	65,944.13
N. S. Pawliuk & Son Ltd.	63,490.00
Fort Construction Co.	62,763.65
A. Wheeler Construction (1962) Ltd.	58,932.85
M. and S. Paving Ltd. (Utilities Division)	54,989.17
Sturgeon Valley Development Ltd. awarded	50,414.60

ERECTION AND COMPLETION OF A HIGHWAY
MAINTENANCE GARAGE, COLEMAN.
February 28th, 1963.

A. W. Homme Ltd.	40,233.00
Lance Construction Ltd.	43,743.00*
Chronik Construction Ltd.	37,000.00
Cellis Building & Supplies	34,800.00*
Remington Construction Co. Ltd.	34,299.00
Paul Stober Construction Ltd.	31,438.00
Ostberg Construction & Holdings	31,347.75*
Bird Construction Co. Ltd. awarded	30,704.00

ERECTION AND COMPLETION OF A TWO-STALL
HIGHWAY MAINTENANCE GARAGE, ETZIKOM.
February 28th, 1963.

A. W. Homme Ltd.	45,769.00
Lance Construction Ltd.	43,743.00*
Bird Construction Co. Ltd.	39,703.00
D. and H. Construction Ltd.	39,608.00
Adam Chambers Construction	37,980.00
Paul Stober Construction Ltd.	37,159.10
Arias (Spanish) Construction Ltd. awarded	32,080.00

ERECTION AND COMPLETION OF A TWO-STALL
HIGHWAY MAINTENANCE GARAGE, PINCHER
CREEK. February 28th, 1963.

Lance Construction Ltd.	37,886.00
A. W. Homme Ltd.	31,891.00
Chronik Construction Ltd.	31,000.00*
Remington Construction Co. Ltd.	30,637.00
Paul Stober Construction Ltd.	29,539.40
Ostberg Construction & Holdings	28,457.00*
Bird Construction Co. Ltd. awarded	28,043.00

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
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ERECTION AND COMPLETION OF A STRUCTURAL
ENGINEERING LABORATORY, UNIVERSITY OF
ALBERTA, EDMONTON. February 28th, 1963.

Forest Construction Ltd.	348,127.00
Christensen & Macdonald Construction Ltd.	347,814.00*
Buchanan Construction & Engineering Co. Ltd.	347,645.00
Stuart Olson Ltd. awarded	345,975.00
The Foundation Co. of Canada Ltd.	344,345.00*
Platten Bros. Construction Ltd.	343,657.00*
Burns & Dutton Construction (1962) Ltd.	343,400.00*
Alta-West Construction Ltd.	340,143.00*
Bennett & White Alberta Ltd.	339,655.00*
Bird Construction Co. Ltd.	338,920.00*

ERECTION AND COMPLETION OF A FOUR-STALL
HIGHWAY MAINTENANCE GARAGE, EVANSBURG.
March 7th, 1963.

McLeod Mercantile Ltd.	53,950.00
R. Holzer Construction	52,347.00
McRae and Associates Construction Ltd.	51,600.00
Camwil Construction Ltd.	50,000.00
Noral Construction Ltd.	49,980.00
Parkins Construction Ltd.	49,900.00
A. W. Homme Ltd.	49,887.00
Lance Construction Ltd.	48,898.00
Ness Construction Ltd.	47,987.00
W. J. Bennett Contractors Ltd.	46,968.00
Briden Construction Ltd.	46,833.00
Byrnes & Hall Construction Ltd.	46,511.00
Bird Construction Co. Ltd. awarded	44,786.00

TENDERS CALLED ON BEHALF OF THE ALBERTA LIQUOR CONTROL BOARD

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
SITE CLEARING AND PREPARATION, ALBERTA LIQUOR CONTROL BOARD WARE- HOUSE, 142nd St. & 124th Ave., Edmonton July 26th, 1962.	
Poole Construction Co. Ltd.	\$46,762.75
Nadon Paving Ltd.	45,884.90
Chrapko Brothers awarded	40,521.00
SUPPLY OF FILL MATERIAL, A.L.C.B. WARE- HOUSE, EDMONTON. July 26th, 1962.	
Twin Bridges Sand and Gravel (1960) Ltd. .	80,000.00
Chrapko Brothers	58,400.00
Apex Building Supplies Ltd.	58,300.00
Poole Construction Co. Ltd.	57,360.00
Nadon Paving Ltd. awarded	48,220.00
ERECTION AND COMPLETION OF A LIQUOR STORE AND WAREHOUSE, BLAIRMORE. August 9th, 1962.	
Southern Alberta Construction Ltd.	98,596.50
Oland Construction (1959) Ltd.	94,800.00
Bird Construction Co. Ltd.	90,889.00
S. Arias (Spanish) Construction	89,999.00
Ostberg Construction and Holdings awarded	78,286.00
GRADING, PAVING AND RELATED WORK, LIQUOR STORE, WESTLOCK. August 9th, 1962.	
O'Hadon Paving Ltd.	5,533.64
Nadon Paving Ltd. awarded	3,956.80
FOOTINGS AND STRUCTURAL FRAME, A.L.C.B. WAREHOUSE, EDMONTON. August 16th, 1962.	
Con-Force Products Ltd. awarded	789,200.00
ERECTION AND COMPLETION OF A LIQUOR STORE, SMOKY LAKE. September 20th, 1962.	
Norman Nilsen Construction	46,823.00
Forest Construction Ltd.	46,145.00
Poole Construction Co. Ltd.	44,877.00
Norseman Construction Co. Ltd.	43,917.00
Hrudey Construction Ltd.	43,334.00
W. J. Bennett Contractors Ltd.	41,700.00
New West Construction Co. Ltd.	40,708.00
McRae and Associates Construction Ltd. awarded	40,500.00

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
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**ERECTION AND COMPLETION OF A LIQUOR
STORE, VALLEYVIEW. September 20th, 1962.**

Prism Construction Co. Ltd.	49,148.00
W. J. Bennett Contractors Ltd.	48,025.00
Forest Construction Ltd.	47,831.00
Norman Nilsen Construction Ltd.	47,818.00
Camwil Construction Ltd.	47,760.00
New West Construction Co. Ltd. awarded	46,957.00

**SUPPLY AND INSTALLATION OF REINFORCING
A.L.C.B. WAREHOUSE, EDMONTON.
September 20th, 1962.**

Dominion Bridge Co. Ltd.	33,956.00
Western Bridge Ltd. awarded	33,297.00

**ERECTION AND COMPLETION OF A LIQUOR
STORE, MUNDARE. October 4th, 1962.**

Bird Construction Co. Ltd.	45,043.00
Watson (Tofield) Ltd.	44,700.00
Alba Construction Ltd.	42,512.00
Norman Nilsen Construction Ltd.	41,882.00
New West Construction Co. Ltd.	41,506.00
Lance Construction Ltd.	41,367.00
McRae and Associates Construction Ltd.	40,450.00
Briden Construction Ltd.	39,819.00
W. J. Bennett Contractors Ltd.	38,486.00
Camwil Construction Ltd. awarded	38,000.00

**INSTALLATION OF DOCKBOARDS AND CAR
SPOTTERS, A.L.C.B. WAREHOUSE, EDMONTON.
October 4th, 1962.**

Farwil Corporation awarded	18,409.00
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**SUPPLY AND INSTALLATION OF FACE BRICK,
A.L.C.B. WAREHOUSE, EDMONTON.
October 25th, 1962.**

Holm's Masonry Ltd.	42,424.00
J. J. Cust Masonry Ltd.	38,886.00
Julian's Masonry Ltd. awarded	36,900.00

**SUPPLY AND INSTALLATION OR OVER-
HEAD DOORS, A.L.C.B. WAREHOUSE,
EDMONTON. November 1st, 1962.**

Barcol Overdoor Ltd.	56,391.00
Richards-Wilcox Canadian Co. Ltd. awarded	47,315.00

**CURTAIN WALLS, ETC., A.L.C.B. WAREHOUSE,
EDMONTON, November 1st, 1962.**

Canadian Pittsburgh Industries Ltd.	41,850.00
Bogardus, Wilson Ltd. awarded	40,500.00

CONTRACT TENDERED FOR AND TENDERERS **AMOUNT BID**

LATHING AND PLASTERING, A.L.C.B. WAREHOUSE, EDMONTON, November 8th, 1962.

Geo. R. Byer & Associates Ltd.	12,400.00
C. Beckett and Co. (Edmonton) Ltd. .	12,400.00
Sullivan and Stewart Plastering Contractors Co. Ltd.	12,340.00
Fred Blanchard and Son Ltd. awarded	11,575.00

SUPPLY AND INSTALLATION OF TWO PASSENGER ELEVATORS, A.L.C.B. WAREHOUSE EDMONTON. November 8th, 1962.

T. E. Bate Engineering Ltd.	32,136.00
Peterson & Cowan Co. Ltd.	31,664.00
Otis Elevator Co. Ltd.	30,625.00
Turnbull Elevator of Canada Ltd. awarded	29,150.00

SUPPLY AND INSTALLATION OF EXTERIOR LOUVERS, A.L.C.B. WAREHOUSE, EDMONTON. November 15th, 1962.

Canadian Pittsburgh Industries Ltd.	23,299.00
Evco Building Specialties Ltd. awarded	16,824.50

SUPPLY AND INSTALLATION OF MOVABLE PARTITIONS, A.L.C.B. WAREHOUSE, EDMONTON. November 22nd, 1962.

Evco Building Specialties Ltd.	39,713.00
Gorman's Limited	19,571.00
Dominion Sound Equipments Ltd. awarded	16,485.00

SUPPLY AND INSTALLATION OF ACOUSTIC TILE AND CEILING SUSPENSION SYSTEM, A.L.C.B. WAREHOUSE, EDMONTON. November 22nd, 1962.

F. Drexel Co. Ltd.	17,900.00
Western Asbestos (Alberta) Ltd.	17,840.00
Dominion Sound Equipments Ltd. awarded	17,408.00

SUPPLY AND INSTALLATION OF METAL TOILET PARTITIONS, A.L.C.B. WAREHOUSE, EDMONTON. November 29th, 1962.

General Steel Wares Ltd.	1,722.00
Westeel Products Ltd.	1,674.00
Porcelain & Metal Products Ltd. awarded	1,422.00

SUPPLY AND INSTALLATION OF A PNEUMATIC TUBE SYSTEM, A.L.C.B. WAREHOUSE, EDMONTON. December 6th, 1962.

Letchford Industries Ltd.	6,758.00*
Kipp Kelly Ltd.	6,748.00
Mumford Medland Ltd. awarded	6,300.00

CONTRACT TENDERED FOR AND TENDERERS	AMOUNT BID
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SUPPLY AND INSTALLATION OF TILE,
TERRAZZO AND MARBLE, A.L.C.B. WAREHOUSE,
EDMONTON. December 20th, 1962.

Empire Marble and Tile Ltd.	31,242.00
M. L. Reeson & Co. Ltd.	28,717.00
Columbia Tile and Terrazzo Ltd.	27,716.00
Bob Candido's Tile and Terrazzo Co. Ltd.	awarded 27,500.00

INSTALLATION OF COMPLETE AUTOMATIC
TEMPERATURE CONTROLS, A.L.C.B. WARE-
HOUSE, EDMONTON. January 31st, 1963.

Honeywell Controls Ltd.	22,000.00
Western Air Conditioning Ltd.	17,824.00
Johnson Controls Ltd.	awarded 13,837.00

ERECTION AND COMPLETION OF AN ALBERTA
LIQUOR CONTROL BOARD WAREHOUSE,
DRUMHELLER. March 7th, 1963.

Burns & Dutton Construction (1962) Ltd.	108,800.00
W. J. Bennett Contractors Ltd.	101,662.00
McRae and Associates Construction Ltd.	99,423.00
Greene Construction Co.	98,457.00
Buchanan Construction & Engineering Co. Ltd.	95,365.00
Poole Construction Co. Ltd.	92,900.00
Bakgaard Construction Co. Ltd.	awarded 91,200.00

**GRANTS PAYABLE UNDER THE PUBLIC WORKS ACT,
CHAPTER 270, SECTION 19(1), TOWARDS THE COST OF
CONSTRUCTION OF SWIMMING POOLS OR THE
IMPROVEMENTS THEREOF**

1. A grant of \$7,000.00 or one third of the actual cost of construction, whichever is the lesser amount, is payable towards the cost of the construction of a swimming pool.
2. A grant of \$7,000.00 is payable towards the cost of improvement to an already existing swimming pool for which no grant has been already paid, or one third of the actual cost of such improvements, whichever is the lesser amount.
3. Grants as set forth above are payable to Municipalities with a population of not more than 10,000.
4. Approval by the Architects of the Department of Public Works must be obtained for the plans of the pool and drainage arrangements.
5. Approval of the plans of the pool as to sanitary arrangements must be obtained from the Sanitary Engineer of the Department of Health.
6. The grant will be computed from an audited statement of expenditure which must be submitted to the Department of Public Works.
7. The title of the swimming pool must be held by the municipality, village, town or city.

During the fiscal year 1962-63, a total of \$56,000.00 was paid to the following as "swimming pool grants":

Village of Foremost	City of Lloydminster
City of Grande Prairie	Town of Olds
Town of Hinton	Town of Picture Butte
Town of Lacombe	Town of Redcliff

THE CROWN PROPERTIES MUNICIPAL GRANTS ACT

Under "The Crown Properties Municipal Grants Act", being Chapter 20, 1961 and amendments and regulations thereto, grants are paid on all Crown owned properties other than the following:

- (a) real property forming part of an undertaking in respect of the conservation, irrigation, reclamation, rehabilitation or reforestation of land;
- (b) any park, historical site, monument or museum;
- (c) except when otherwise prescribed by the Provincial Treasurer, real property leased to or occupied by a person from whom the municipality may, by reason of his interest in the property, levy and collect a municipal tax;
- (d) real property used for or in connection with academic, trade forestry or agricultural schools, colleges or universities;
- (e) real property used for or in connection with hospitals and mental institutions;
- (f) real property comprising streets, lanes, roadways or road allowances;
- (g) real property that is not used or actively occupied by the Crown and that is not occupied by a person under a lease, licence, permit or agreement for sale;
- (h) real property owned by The Alberta Liquor Control Board, the Alberta Government Telephones Commission or the Workmen's Compensation Board;
- (i) any specific real property or class of real property exempted from the provisions of the Act by the Lieutenant Governor in Council.

In addition to this, grants are paid on any building which would otherwise be excluded but which are serviced by local utilities services, such as forestry ranger buildings.

In the case of grazing leases on Crown lands, a portion of the lease fee is returned to the Municipality and such payments made are not included in the figures shown as payments made under "The Crown Properties Municipal Grants Act".

GRANTS IN LIEU OF TAXES

During the fiscal year 1962-63, a total of \$1,403,891.05 as grants in lieu of taxes for Government buildings was paid to the following Cities, Towns, Villages, Counties and Municipal Districts throughout Alberta:

CITY OF:		TOWN OF:	
Calgary	\$269,502.80	Rocky Mountain House \$	2,399.80
Camrose	7,413.35	Stettler	2,494.52
Drumheller	9,549.12	Stony Plain	260.52
Edmonton	733,223.87	St. Paul	3,397.05
Grande Prairie	23,143.36	Swan Hills	120.90
Lethbridge	33,538.00	Three Hills	276.48
Medicine Hat	5,394.78	Vegreville	4,109.56
Red Deer	18,678.15	Vermilion	1,412.88
Wetaskiwin	6,584.16	Viking	377.58
		Vulcan	424.20
TOWN OF:		Wainwright	1,073.53
Athabasca	731.10	Westlock	994.48
Barrhead	5,744.97	Whitcourt	1,662.03
Black Diamond	241.45	VILLAGE OF:	
Blairmore	1,397.55	Andrew	317.72
Bonnyville	218.00	Boyle	22.80
Bowness	257.04	Cochrane	197.20
Brooks	2,183.35	Coutts	383.19
Cardston	2,339.56	Czar	349.44
Castor	438.31	Duchess	376.80
Claresholm	312.00	Elnora	174.30
Cold Lake	418.50	Evansburg	188.16
Coleman	349.68	Hines Creek	495.90
Coronation	376.32	Rycroft	1,128.40
Devon	1,216.05	Ryley	378.78
Didsbury	300.03	Slave Lake	1,218.60
Drayton Valley	2,577.00	COUNTY OF:	
Edson	12,450.35	Lacombe	548.90
Fairview	1,165.60	Newell	2,686.32
Falher	475.41	Ponoka	7,879.08
Fort Macleod	3,864.81	St. Paul	54.28
Fort Saskatchewan	42,655.79	Smoky Lake	172.22
Grimshaw	3,073.34	Stettler	86.14
Hanna	8,646.96	Strathcona	4,780.44
Hinton	418.05	Sturgeon	6,097.84
Innisfail	1,036.26	Wheatland	191.82
Jasper Place	1,514.55	MUNICIPAL DISTRICT OF:	
Lac La Biche	5,898.86	Eagle	\$ 32.41
Lacombe	2,188.22	Fairview	1,212.12
Manning	715.80	Foothills	736.40
Mayerthorpe	3,858.00	Lac St. Anne	4,992.00
McLennan	175.84	Leduc	832.96
McMurray	582.78	Lethbridge	28,745.62
Nanton	209.19	Red Deer	55,573.00
Olds	2,035.50	Rockyview	24,213.05
Peace River	18,622.98	Stony Plain	629.53
Ponoka	897.12	Willow Creek	1,181.79
Redwater	1,177.00		
Improvement District No. 946 — Canmore		\$ 410.78	
Improvement District No. 96 — Entrance		569.50	
Improvement District No. 65 — Raven River		239.12	

**SUMMARY OF EXPENDITURES BY THE DEPARTMENT
OF PUBLIC WORKS FOR THE FISCAL YEAR ENDING
MARCH 31, 1963**

Appropriation Number	Description	Amount	Total
ADMINISTRATION			
2601	Minister's Office	\$ 18,719.66	\$
2602	General Administration	303,893.42	
2606	Public Buildings Staff	859,504.28	
2608	Mechanical Branch	49,642.11	1,231,759.47
MAINTENANCE			
2610	Legislative & Public Bldgs.— Maintenance	5,774,306.02	
2612	Public Institutions — Maintenance	1,637,248.57	
2614	High Pressure Power Plants	1,756,036.45	
2615	Low Pressure Power Plants	399,720.18	
2620	Government Automobile Service ..	77,469.05	9,644,780.27
GRANTS			
2624	Grants to Municipalities for Swimming Pools	56,000.00	
2625	Grants for Construction of Police Buildings	123,181.86	
2626	Grants to Municipalities in Lieu of Taxes	1,403,891.05	1,583,072.91
CAPITAL			
2681	Administrative & Judicial Bldgs.— Furnishings and Equipment	5,192,351.93	
2682	Public Buildings— Sites & Construction	24,846,075.81	
2684	Power Plants Construction	209,600.59	30,248,028.33
			<u>\$ 42,707,640.98</u>

PROGRAMME OF CONSTRUCTION

Department of the Attorney General

Court House, Calgary

Construction continued on this project and only final finishing work remained to be done at the end of this fiscal year. A considerable amount of work had already been undertaken toward the furnishing and equipping of this building—a major task in itself. This building will fill the pressing need for the Southern area of the Province and is designed to meet the needs of this area for many years to come. This new Court House is a steel framed building with reinforced concrete sub-structure and prestressed concrete floors. The building is faced on the exterior with granite and marble and has extensive panelling of exotic woods throughout the interior. The quality of materials generally is in keeping with the dignity of the function of the building.

The first contract for the foundations and structural steel was commenced in April, 1959. The building contains a total of 135,750 square feet as well as accommodation for a R.C.M.P. Court, Citizenship Court and a Small Debts Court and houses twelve main courtrooms with their ancillary accommodation. Provision is also made for Judges' Private Rooms and Library, Lawyers' Library, offices for the Sheriff and the Clerk of the Court and their staff, and accommodation for Court Reporters and for Adult and Juvenile Probation Services. A cafeteria is also provided.

The Court House contains boilers, refrigeration apparatus, cooling tower and a cooling water well to provide the occupants with modern year round air conditioning comfort. Each area is individually controlled to the occupants' requirements. The boilers in the new Court House have been sized to permit heating of the Land Titles Building and the old Court House.

Department of Education

Southern Alberta Institute of Technology, Calgary

Construction commenced on a gymnasium-auditorium and student centre.

The main structure, which is the gymnasium, is so designed that it can be used as an auditorium for drama and other student functions. A very attractive lobby makes a pleasant approach to the gymnasium proper as well as crush space for intermissions. A one-storey wing provides space for student lounges.

The main structure consists of pre-cast concrete columns with castelled steel beams spanning the main gymnasium area. The exterior wall treatment is a combination of face brick and exposed concrete block. Interior finishes are exposed concrete block, terrazzo, vinyl asbestos tile floor coverings. The ceiling in



Gymnasium, Southern Alberta Institute of Technology, Calgary

the gymnasium is exposed with acoustic ceilings in the offices and recreation areas.

Hot water wall hung radiation system supplies the heating for the building. The hot water is generated by one 150 horsepower packaged boiler.

The site was developed and landscaped.

Northern Alberta Institute of Technology, Edmonton

The Northern Alberta Institute of Technology was completed this year. It is located on a site of 26.46 acres which limited the design to a great extent because so many of the functions were to be at ground level. The resultant design is a very compact building complex that was planned and built in three phases. The design is such that an Administration Area (Phase II, Central Building) is the central area, bordered on one side by a Laboratory Classroom Wing (Phase III, Academic Area) and a Workshop-Classroom Wing (Phase I, Industrial Building) on the other.

Phase I (the Industrial Building) is a grouping of the workshop and workshop-classroom areas. The workshops, because they require outside access, are planned to surround the classrooms. This planning has two main advantages. It provides covered links between various workshops and allows a close

classroom-to-workshop relationship. The use of the between-workshop areas for classrooms creates some problems regarding lighting and ventilation. These problems are overcome by the use of courtyards which not only provide natural light and ventilation, but also allow for outdoor activities within the building proper. This building meets the requirements of the automotive, diesel, woodworking, electrical and plumbing trades. There are also small separate buildings for the plastering and welding trades. These are self-contained units since their relationship to the other trades is not critical. One of these buildings, known as the Mortar Trades Building, was occupied on March 31st, 1962, and was the temporary administrative headquarters for the Northern Alberta Institute of Technology. Construction of Phase I was begun on January 3rd, 1962.

The second stage of this project is known as the Central Building. It houses the administrative office and connects the industrial buildings with the academic buildings. Other functions of this area include the food preparation and dining facilities, the library, the auditorium and the display areas for student projects. A large landscaped courtyard bordering the auditorium, library and corridor areas creates a spacious and pleasant relief from the purely functional appearance of other areas. It is hoped that student projects may be on display here and thereby create personal interest by the student and teacher to make this courtyard a focal point for many activities. The Central Building was completed on December 31st, 1962.

The third stage of the project is the academic section and gymnasium. This area is made up of classrooms and laboratories. This comprises four main divisions of the buildings, each with a basement and two floors above grade. They are the "Technical Block", the "Medical Wing", the "Science Wing" and the "Electronics Wing". The activities of each is defined by its particular designation. The Technical Block houses the accounting division, staff offices, beauty culture, etc., while in the Medical Wing are the X-ray department, bacteriology and hematology laboratories and draughting department. In the Science Wing provision has been made for the teaching of Chemistry, Physics, Hydraulics, Materials and Instrumentation, and in the Electronics Wing for Radio, Television and Computers. Each of the "Wings", though indirectly related, has been planned with its own independent facilities, classrooms and laboratories, so that it could function freely if the case should arise. Another section of Phase III construction is the gymnasium. This building is so designed that two practice basketball courts, or one large regulation size court, is available to the students in case the students might wish to participate in either volleyball or badminton. Phase III was completed on March 1st, 1963.

The structural system for these buildings is concrete, both poured-in-place and precast. Exterior finish of face brick and interior finish of exposed concrete block or glazed concrete blocks was used throughout. Accents of glazed ceramic tile, together with



Northern Alberta Institute of Technology, Edmonton

the exposed concrete framework, has also been used to give emphasis to certain functions. A repetitive rhythmic pattern has been created throughout and makes for a harmonious and pleasing centre of education.

Prior to the commencement of the building construction, it was necessary to carry out considerable site development. The site had originally been used as an air force and army supply base and after removal of the old buildings, the services, including sewers, water lines, power and communication lines, had to be re-routed and made suitable to accommodate the new institution. In particular, the new sewage system involved the design for projected future loads as well as for current needs. In conjunction with this construction, it was necessary to re-route an existing communication line linking the Northwest Army Command with the Distant Early Warning line.

All steam used for heating, process and service equipment is obtained from a boiler plant located in the central area of the site and is distributed by piping in a service tunnel connecting all portions of the building.

All portions of the building in Phase II and Phase III are fully air conditioned. The air conditioning system utilizes "double duct, high velocity" air distribution systems for transmitting the conditioned air to the various rooms of the building as required

to heat or cool the building. These systems consist of a fan section in the equipment room where air is filtered, humidified, and heated or cooled as required. The air is delivered by the fan through main distribution ducts at high velocity and is then supplied through specially designed mixing boxes which decrease the air velocity and attenuate the air noise to acceptable limits for supply through diffusers in each area.

There are a total of seven fan systems located in six different equipment rooms which deliver a total air quantity to the various areas of over 365,000 cubic feet of air per minute. The total connected horsepower of the fans to move this air is 335. These air quantities provide a sufficient volume of air so that the air is changed in the building a minimum of eight times per hour, with some specific areas having an air change rate of fourteen times per hour or every four and one-half minutes.

The cooling requirements for the whole complex of buildings is achieved by refrigeration equivalent to the cooling which would be received from the melting of 1,300 tons of ice per day. This is made up by three machines, two units of 600 tons each for Phase II and Phase III, and one unit of 125 tons to provide cooling to refrigeration areas in Phase I. Refrigeration is obtained by cooling water in absorption type refrigeration units and the chilled water thus obtained is circulated through water cooling coils in the various fan sections previously described. These refrigeration units utilize 26,000 pounds of steam per hour to achieve the required cooling capacity. A total of 4,170 gallons per minute of cooled water are circulated in this system.

Illumination in Phase III of the Institute (the Technical wings and the Gymnasium) is primarily provided with fluorescent fixtures using 347 volt ballasts. In the Gymnasium, very high output (VHO) lamps were used to get a satisfactory level of light without too many fixtures. All lighting is controlled by low voltage switches and relays operating at 24 volts. Power in the form of plug-in outlets and disconnect switches was provided for all areas such as laboratory benches, work tables and machine lines on the floor. Special areas were also supplied, such as the X-ray suite, Pyrometry laboratory and Photography area. Special systems in the Science and Electronics wings were provided. In the Science Wing, a set of nickel cadmium batteries and a plug-in board were installed with all the necessary accessories. By using jumper cords, it is possible to get any voltage with multiples of 1.2, 6 or 12 volts with a maximum of 120 volts.

In the Electronics Wings a grounding system distributed to the student benches is connected to three special grounding wells. The wells consist of special corrosion resistant pipe placed in a well reaching the water table and surrounded on the outside with salt. The pipe is perforated at regular intervals. It is kept filled with water to ensure good connection to ground.

Antenna system for radio, television and micro-wave were required to lead into the laboratories from the roof areas. Provisions were made to mount any number of antennae with supporting guy wires. One laboratory is provided with vehicular doors to permit servicing and testing of mobile electronics equipment.

Department of Health

Chapel, Bowden Institution, Bowden

A small, non-denominational chapel was constructed at the Bowden Institution. The 2,500 square foot building is of brick and concrete masonry construction with a laminated wood beam and wood deck roof and can accommodate 140 persons. The chapel has a small vestry and a modest choir robing room. The building will fulfill an urgent need for permanent devotional space at the Institution.

Foothills Provincial General Hospital, Calgary

The building programme at the Foothills Provincial General Hospital project, with the Power Plant, the School of Nursing and the Nurses' Residence Building, continued. Construction is completed on the foundations and structural steelwork of the main Hospital Building.

The site is an 85 acre parcel of land, bounded by the Trans-Canada Highway to the north and overlooking the river valley and the City of Calgary. Initial site grading, laying of services and sowing of rye and grass to contral blowing dust was carried out in the previous year, together with the planting of a tree nursery for use in future landscaping. The site will be developed in various phases during the next number of years and is to include a 750-bed active treatment general hospital, a 100-bed hospital for chronic patients, a Nurses' Residence and school for 330 student nurses in training, a 500-bed mental hospital, a possible cancer treatment hospital and public health laboratories. A separate power plant building to service the entire site has been built. Food services will be provided in the general hospital for the auxiliary hospital and Nurses' Residence. The laundry and maintenance shops, to serve the entire site, will be located in the main hospital building and all the buildings will be interconnected with a walk-in service tunnel.

The General Hospital has 13 floors and is designed in the form of an inverted "T" to provide the shortest horizontal distances from a centrally located elevator core. The building is built into a hillside to facilitate direct access to the lower service floor which is two floors below the main entrance level. Concrete piles have been utilized to carry the weight of the building to the load bearing strata some 30 to 40 feet below basement level. A structural steel framework is to support the all-masonry building.

There are nine elevators located in the central elevator core with provision for the tenth, should it be required. The various departments and functions are distributed as follows:

Basement:

Pharmacy, Central Supplies, Central Receiving and Stores, Maintenance Shops, Morgue, Laundry Storage and Mechanical space.

Ground Floor:

Auditorium (seating for 300), Staff Cafeteria, Food Services, Personnel Office, Purchasing, Staff Lockers, tunnel connections to Nurses' Residence and Chronic Hospital.

First Floor:

Administration, Main Entrance, Medical Records, Doctors' Lounges, Medical Library, Referral Clinic, Admitting, Snack Bar, News-stand, Emergency Department.

Second Floor:

Phychiatric Wards, Occupational Therapy.

Third Floor:

Rehabilitation, Physio-therapy.

Fourth Floor:

Genito Urinary and Orthopaedic wards, X-ray.

Fifth Floor:

Obstetric wards, Nurseries and Case Rooms.

Sixth Floor:

Medical wards, Clinical Laboratories.

Seventh Floor:

Surgical wards, Operating suites.

Eighth Floor:

Gynaecology and Surgical Wards, Doctors' Lockers, Interns' Residence.

Ninth Floor:

Neuro-Surgical and Eye, Ear, Nose and Throat wards, Medical Research.

Tenth Floor:

Medical wards, Sun Decks.

Eleventh Floor:

Pediatric Wards, Isolation Wards.

The wards have 38 beds in each of the two wings per floor with intensive care beds in the respective wards adjacent to the nurses' stations. The clinical areas are related to the type of medical care provided on the particular floor. The various de-

partments will have available all phases of treatment and care within the scope of a general hospital.

The following services are brought via a large service tunnel from the main power plant to the Clinical Wing mechanical room: One 18 inch low pressure line; two 8 inch high pressure lines, one condensate line; two 14 inch chilled water lines. The Clinical Wing mechanical room forms the starting point of the distribution system. From here the services branch off to the operating rooms, the laundry mechanical areas, and the north and south Nursing Wing mechanical areas.

The air conditioning system for the north and south Nursing Wings and the Clinical Wing consists mainly of:

- (a) Three separate induction systems supplying heating and cooling as required to the periphery wall areas by means of room induction units, and
- (b) Three separate dual duct systems complete with large centrifugal fan units. Each dual duct system is a full fresh air system. Chilled water and low pressure steam are used to maintain the hot and cold ducts.

A separate air conditioning system located in the Clinical Wing Penthouse services the operating room floor. Separate ventilating systems are used to service the following areas: Laundry, Kitchen, Morgue, Shop, Auditorium and Foyer Rooms.

The heating system for the Auditorium and the additional heating for the north and south Nursing Wings is forced hot water and wall fin radiation. The cold generation plant, located in the power plant building, consists of two 750 ton nominal absorption units. These are supplied with exhaust steam from the turbines. There is a 100 ton stand-by centrifugal compressor.

The fire protection system consists of a wet stand pipe system complete with fire hose cabinets, one electrical driven and one diesel driven fire pump. A complete wet sprinkler system covers all below grade windowless areas. Special carbon dioxide flooding systems are required for the diesel-electric set room on the inflammable storage areas.

The ambulance entrance, or the staff entrance, the main hospital entrance and the corresponding sidewalks all have an intricate snow melting system.

In order to provide power at all times to the most vital parts of the hospital, four separate sources of power are employed to supply the four basic divisions of the load. These are:

1. The City of Calgary power system—to supply the normal load.
2. The Hospital Power Plant—to supply the preferred load.
3. A Diesel Electric set in the Hospital—to supply alternating current emergency load.

4. A Battery Band in the Hospital—to supply the direct current emergency load.

The City of Calgary power system is brought into the Hospital power plant and the power plant is then connected by underground cables to the hospital at a voltage of 13,200 volts. Primary power distribution within the hospital is provided from a high voltage switchboard to four different sub-stations at a voltage of 13,200 volts. Low voltage distribution is at 120/208 volts for lighting and appliances while the 4,000 horsepower for motors is supplied at 575 volts.

A distinct feature of prime importance is provided by having all the main circuit breakers within the hospital controlled remotely by the operator on duty at the power plant. In case of a City power failure, the operator can thus effectively keep the turbines loaded to the maximum and give greater coverage of power within the hospital. If both the City power and the power plant turbines fail, a diesel set in the hospital itself provides power to the operating rooms, case rooms, emergency corridor lights and an elevator, etc. If the diesel set fails, a battery bank provides power to the operating and case rooms. All the switchboards and sub-stations are fully metered with recording type ammeters to provide a constant check and record of power demands at different parts of the hospital.

Fluorescent lighting has been used throughout the building except in the patients' rooms, washrooms and machine rooms. There incandescent lighting has been used. Duplex receptacles have been located throughout the building. In corridors 30 amp. cleaning outlets are provided and in the nursing wings 60 amp. X-ray outlets are installed in the corridors. In office areas an underfloor duct system has been installed so that 120 volt floor outlets may be located to suit the office layout. Motor control centers have been installed in all machine rooms to provide centralized control.

An automatic presence register system for Doctors has been provided with register station in the staff entrances and an annunciator in the telephone operators' room. The system has a total capacity of registering 300 Doctors and an ultimate capacity of 400 Doctors. An audio-visual nurses call system, complete with multi-channel program and television remote control facilities, has been installed. This system provides complete communication between the patient and the nurse. A multi-channel program and paging system has been provided for with paging speakers throughout all corridors and program speakers in all lounges, Cafeteria and operating rooms. An electronic intercomm system has been installed in the various departments providing complete communication between all key personnel.

Synchronous wired clocks have been installed and connected to the master clock in the power plant and interval timers are provided for in all operating rooms and case rooms.

A non-code, zone annunciator, pre-signal, supervised fire alarm system with alarm stations throughout the building has been provided. This system is tied into the City of Calgary Fire Department.

Provisions have been made for future installation of a closed circuit television system and a television antenna system. A complete lightning protection system has been installed on the roof. An empty conduit system has been installed for installation of telephones in all key locations. Also provisions have been made for installation of telephones in all private wards. Complete wiring facilities have been provided for all owner supplied equipment such as in the kitchen, laundry and shop areas.



*Nurses' Residence,
Foothills Provincial General Hospital, Calgary*

Nurses' Residence, Foothills Provincial General Hospital, Calgary

Work is well under way on the School of Nursing and Nurses' Residence for the Foothills Provincial General Hospital. This building, in the form of an angled "H", comprises a three-storied school connected with an eleven-storied residence by a two-storied link, thus providing individual accommodation for 329 nurses in training plus residential quarters for the Director of Nursing, Assistant Director and Housemother.

The basement of the school houses the mechanical rooms and trunk storage for the students. The first floor contains the combined Auditorium-Gymnasium (with small stage and change rooms) capable of seating approximately 500 persons, two stepped lecture theaters (each seating 160 students), an interdenominational chapel for 60 persons, administrative offices and conference room, washrooms both for men and women, and a small kitchen for use with the auditorium-gymnasium only. On the second floor there is a laboratory for 40 students, a stepped lecture theatre for Nursing Arts seating 60 persons, two practice wards with utility rooms, a reading room, a library and washroom facilities.

The two-storied link is the control centre of the whole building and contains in the basement such areas as a semi-public rumpus room with coffee bar, washrooms for both men and women, mechanical and electrical rooms and the entrance to the service tunnel to the Hospital. The first floor accommodates the main entrance to the building, control and Housemother's office, six reception rooms and the main lounge.

The eleven-storied residence houses within the basement such recreational areas as a rumpus room, four music or television rooms, one hobby room and one reading room. The other areas are an incinerator room, a sports equipment room (bikes), hairdressing facilities, small kitchen, shop for students, laundry and ironing room (personal), two elevators, sewing room, linen room, janitor and staff rooms. The first floor houses the suites for the Director, Assistant Director, Housemother and two guest rooms. Each suite has a living room, kitchen, bathroom and bedroom. The latter suites are located in such a way as to give complete privacy. The balance of the floor contains a lounge, two elevators and 16 student rooms. The second to tenth floors, inclusive, are typical floors and contain 35 individual rooms, washroom facilities, laundry room, linen room and a janitor room. The penthouse, which is glazed, provides a place for relaxing in the winter sun, while the sun deck is used only during the summer months.

The construction of the building is primarily of reinforced concrete (cast-in-place) with precast concrete used on the link and school. The exterior treatment is predominantly of buff face brick, broken only by the aluminum windows, natural stone panels and coloured porcelain enamel panels, all coupled to give a pleasing architectural appearance. The interior wall finishes depend upon the function but are generally exposed concrete block, tile and plaster. The floor finishes are resilient flooring except for some areas of terrazzo. All public areas of the residence, school and the link are heated by forced hot water and ventilated mechanically. Generally, illumination is incandescent except for special areas which, due to function, require fluorescent lighting.

Power Plant, Foothills Provincial General Hospital, Calgary

Tenders were called and a contract was awarded in July 1961 for the Power Plant. This building, with its steam boilers and steam turbines, will supply heat to all of the buildings on the site and the power generating facilities will supplement the City power supply as well as provide independent emergency power to the vital parts of the Hospital. The building consists of the boiler area, generator area and refrigeration area as well as such auxiliary areas as the maintenance shops, washrooms, etc. The structure is of reinforced concrete to grade level with structural steel frame above. The roof has a precast concrete deck. Exterior elevations consist of exposed concrete below the first floor level with buff face brick and aluminum windows above. The pressure plant consists of two 50,000 pounds per hour gas and oil-fired high pressure steam boilers for the Hospital and Nurses' Residence. A provision has been made for a future boiler for the anticipated future loads. Refrigeration consists of central absorption refrigeration equipment and a cooling tower of approximately 1,500 tons capacity to provide chilled water for the main Hospital building. The two steam turbine generators, having a capacity of 1,000 kilowatts each, serve as an emergency power supply as well as providing continuous generation for the reduction of peak power loads. A further precaution for emergencies was made by installing a diesel generator in the basement of the main Hospital building.

Chronic Hospital, Foothills Provincial General Hospital, Calgary

Care for the chronically ill will be assured in the proposed 100-bed auxiliary hospital. The very special problem of treating and educating the school-age physically handicapped children will be coped with in a separate 100-bed hospital to be designed for this particular purpose.

Dormitory #4, Provincial Auxiliary Hospital, Claresholm

A fourth dormitory was constructed this year at the Provincial Auxiliary Hospital, Claresholm. This building contains domiciliary facilities for 110 patients with dining, servery and recreation facilities self-contained and food is provided from a central kitchen. In conformation with recent buildings built at this Institution, the building is of frame construction with plaster interior and stucco and brick veneer exterior.

The heating and air conditioning of the building is being accomplished by a multizone heating and ventilating unit with steam coils producing the hot air which is supplied via ductwork throughout the building. Steam is obtained from the main power plant via a steam chase.

Provincial Mental Institute, Edmonton (Oliver)

Ward #3 was completely renovated this year to provide additional bed space. A new heating, lighting and ventilation system was installed. The heating and air conditioning of the building is being accomplished by a multizone heating and ventilating unit with steam coils producing the hot air which is supplied via ductwork throughout the building. Steam is obtained from the main power plant via a steam chase.



Pineview Home, Edmonton (Jasper Place)

Pineview Home, Edmonton

Construction was started on a Home for unwed mothers, known as Pineview Home, in Edmonton. It is built in the vicinity of the proposed new Misericordia Hospital in Jasper Place and has accommodation for 38 girls. The building is "H" shaped and is two stories high. The basement houses the main kitchen and food storage, guest and staff dining rooms, recreation room, laundry and sewing rooms, board room and conference room, nurses' suite and lounges. The main floor houses the maintenance and administration and visiting areas, staff quarters, emergency and examination suites, doctors' and nurses' rooms, etc. Single and double bedrooms with adjoining bathrooms are provided.

Construction is of concrete foundation and frame with a brick veneer. The main entrance has a glazed screen and natural

stone feature wall. The interior is plastered and the floors are vinyl asbestos or rubber tile. The entire building has the pleasant atmosphere of "a home away from home".

The mechanical system incorporates two roof-mounted direct fired industrial gas furnaces supplying hot air via ductwork throughout the building. The ventilation system is based on a two zone area, one large supply fan supplying a proportional amount of fresh air and return air to each zone. Provision has been made for supplying future cooling equipment. The site and grounds were developed and a parking lot was constructed.

Single Men's Hostel, Edmonton

A further addition to the Single Men's Hostel was completed this year. This addition provided additional dining and kitchen space to accommodate the increased bed space.

Provincial Mental Hospital, Ponoka

The new Administration and Reception Building was completed this year providing space for administration, patient wards, an operating theatre, laboratories, dining and recreational areas. A tunnel connection has been provided for the passage of patients from this building to the other buildings in the Institution.

The building is constructed of reinforced concrete with a brick veneer. The main unit has three floors with a two-storied adjoining administration wing and is fully air conditioned.

Construction was completed on the main Kitchen and Bakery.

The department also completed alterations to the Nurses' Residence. This building was originally built at the time of the founding of the Institution and was badly out-dated and in need of renovation. It is now fully modernized and in keeping with present date fire safety requirements. The building has both a hot water heating system and a fully air conditioned system. The hot water perimeter heating provides the heating for the main areas with radiant panel heating for the isolation rooms. The hot water is generated by two low pressure steam converters, obtaining the steam from the main plant via a service tunnel. Cooling is obtained from a 210 ton capacity steam actuated absorption refrigeration machine. The operating rooms are completely isolated from the main air conditioning system. The lighting is almost entirely by fluorescent light fixtures with incandescent lighting using temperate glass lenses in the quiet areas.

Provincial Training School, Red Deer

A six classroom addition to the Schoolhouse at the Provincial Training School was completed on August 1st, 1963. The building is of frame construction with stucco finish and was designed to match the existing building.

Deerhome Institution, Red Deer

Tenders were called for and a contract was awarded in December 1962 for the construction of a sewage lift station and sewage force main across the Red Deer River. This project will enable the sanitary sewage from the Institution to flow into the City of Red Deer lagoons located on the opposite side of the river.

The department also commenced construction of a water storage reservoir and pumping station. The pumping station includes two domestic pumps and one fire pump. These facilities will provide the badly needed fire protection for the Institution. The two domestic pumps will satisfy the normal demands as the Institution increases.

Department of Highways

The vast expansion of the Alberta Highways Department's road systems has necessitated the construction of more facilities for housing and servicing road equipment. The design of these structures is typical, varying in size from two-stall, four-stall, six-stall and eight-stall garages. Construction consists of reinforced concrete foundation, structural frame and glue-laminated beams, exterior walls are frame and stucco, interior partitions are of plywood and gyproc. They are heated by gas-fired hot air furnaces and have full electrical, water and sewer services.

Highways maintenance garages were completed at the following locations:

Athabasca, Grimshaw, Hilda, Pincher Creek, Smith, Taber, Valleyview, and construction commenced at:

Coleman, Etzikon, Evansburg.

Department of Lands and Forests

A divisional office building for the Department of Lands and Forests was completed at Slave Lake. An addition to the Whitecourt Divisional Office was also completed.

Department of Public Welfare

Homes for the Aged

The programme for the construction of Homes for the Aged was continued this year at the following locations:

Calgary—Jacques Site
Castor
Edmonton—Ottewell
Leduc
Provost
Smoky Lake
Strathmore
Taber



Home for the Aged, Edmonton (Ottewell)

A total of thirty-nine Homes have been completed at the following locations:

Athabasca	Lethbridge
Barrhead	Lloydminster
Berwyn	Mayerthorpe
Bonnyville	Medicine Hat
Bow Island	Olds
Brooks	Pincher Creek
Calgary—Bow Valley	Ponoka
Camrose	Raymond
Cardston	Rocky Mountain House
Drumheller	St. Paul
Edmonton—Belvedere	Sherwood Park
Elmwood	Spirit River
McQueen	Stettler
Rosslyn	Stony Plain
Edson	Three Hills
Fort Macleod	Vermilion
High Prairie	Viking
High River	Westlock
Innisfail	Wetaskiwin
Lacombe	

Each "rural" home is designed to accommodate 50 active elderly persons. The Government provides the home plus furnish-

ings, bedding, kitchen equipment, etc., for the proper operation of the Home and it is turned over to the Municipality for maintaining and managing.

Department of Public Works

Terrace Building, Edmonton

A complete description of this building is contained in the previous issue of this Department's Annual Report. Expenditures this year consisted of fitting out the various areas for different departments as they moved into the building. This work consisted of the erection of various partitions and the provision of furnishings, etc.

University of Alberta

Library, University of Alberta, Calgary

Contracts were awarded and construction begun on this project this year. The development procedure for this Library will be similar to that for the new Donald Ewing Cameron Library on the Edmonton Campus of the University of Alberta, with provision for additional wings to be added as the need arises.

The first portion of this Library consists of four floors. The exterior will be "re-constructed" of synthetic granite facing panels, divided by tall pre-cast concrete frames and bronzed fins. The windows will be shielded from the sun by "bronze-glass" sunscreens which will appear to "float" free from the main building. This is similar to the recently constructed U.N.E.S.C.O. Building in Paris, France. Interior wall and floor finishes will approximate those intended for the Edmonton Library.

The main floor accommodates all administrative library departments including circulation, union catalogue, bibliography and processing. Periodicals, reference and reserve reading rooms are also on this floor.

The basement houses the staff lockers and washrooms, student washrooms and student lunch room; the remaining space is divided by temporary partitioning to provide urgently needed classrooms. General book stack and reading areas occupy most of the second and third floors. The third floor also includes audio-visual, micro-film storage, faculty study carrels, librarians offices and board room. The fourth floor contains approximately 60 faculty offices, faculty and staff lounges with kitchen facilities and a computer centre.

The mechanical and electrical systems will be similar to the Library in Edmonton with the one exception that the air conditioning system will be a dual duct system with terminal mixing boxes controlled by zone thermostats.



Library Building, University of Alberta, Calgary



*The Donald Ewing Cameron Research Library,
University of Alberta, Edmonton*

The Donald Ewing Cameron Research Library University of Alberta, Edmonton

This new Library is under construction immediately west of the Arts Building, closely nestled between the north and south Laboratory Buildings. These buildings will, in the future, be moved to provide for the expansion and completion of the Library.

The Library building consists of five floors. The exterior is of light coloured Travertine panelling set between bronze coloured fins and capped with a bronze metal chevron formed cornice. This chevron motif is repeated at the main entrance which is graced by tall slender columns of classic design. The interior of the building has a plaster wall finish with ceramic tile being used in crush halls, etc. The floors are rubber tile and terrazzo.

The main floor will house all administrative library departments, including circulation, union catalogue, bibliography, general order office and cataloguing. The reference and periodical departments are also on this floor.

The basement floor includes the following: Staff lockers and washrooms, staff and student lunch rooms, student washrooms, document stacks, maps, binding, periodical storage, audio-visual, micro-film storage, archives, photo lab, and rare books. The vault storage will be in the sub-basement.

The second, third, fourth and fifth floors will contain all general book stack and reading areas including faculty cubicles. The fifth floor will also house document storage and the chief librarian, assistant librarian and general office. Smoking areas are provided on the second, third and fourth floor.

The mechanical equipment systems in the Library building are of the latest design and concept. The following is a brief description of the equipment and systems within the building:

The library has complete air conditioning systems operating on a 24 hour basis and capable of maintaining comfortable room conditions all the year around. Provisions have been made for future expansion of the building and several of the existing systems have been sized for future capacity. The air conditioning consists basically of the following systems: An air induction system which conditions the peripheral wall areas, except the basement area; a single duct system with terminal hot water booster coils controlled by zone thermostats. This serves the book stack areas of the second to fifth floors, inclusive; a dual duct system with terminal mixing boxes controlled by zone thermostats. This system serves the complete basement, the interior areas of the main floor and part of the floor areas of the second to fifth floors; a hot water heating system with a two pipe, reverse return system with wall fin and convector radiation serving the peripheral wall areas of the basement in addition to the stair-

wells, washrooms, storage areas, etc., throughout the building; a separate rare book system consisting of a packaged air conditioning unit with steam reheat coils and special duct humidifiers to serve the rare book room, the archive room and the micro-film rooms located on the basement floor and also the vault which is located in the sub-basement.

The main service feeding the building is an underground, 13.8 kilowatt ring-main service from the University underground distribution. This is transformed to a main distribution of 347/600 volts three phase. All fluorescent lighting and the larger motors operate on the 347/600 system, while receptacles, incandescent lighting and smaller motors operate on the 120/208 volt system. This voltage is provided by further transformer banks.

The building is almost entirely lighted with a special 10 inch wide fluorescent light fixture. Duplex receptacles and 20 amp. cleaning outlets have been located throughout the building for convenience. A 50 line, 3 channel intercom system has been installed throughout the building. The system has automatic cross bar switching and has secretarial and conference features.

A non-coded, supervised, zone annunciator fire alarm system incorporating automatic alarms in the supply ducts has been installed in the Library. The system is tied into the power house and the City fire department.

All systems have been designed, sized and installed to easily facilitate the addition of the two future wings.

Education Building, University of Alberta, Edmonton

Construction continued on this building which is located on 87th Avenue between 112th and 114th Streets on the University Campus.

The building complex consists of three district units, i.e., a ten-storied tower for administrative staff with two four-storied classroom wings adjoining, plus a two-storied library and a large gymnasium.

The exterior wall facing on the tower and the classroom wings is of pre-cast concrete panelling having a white quartz aggregate and black granite chips. The gymnasium exterior has a pierced concrete block screen in concrete frame. The library is clad with a sculptured-type of pre-cast concrete panel with white quartz aggregate. All windows are aluminum with double glazing. The classrooms have all been provided with "black-out" blinds for audio-visual instruction. The interior wall finishes are generally exposed, painted concrete block with a minimum of plastered and wood panelled walls. The floors are various types of vinyl tiles.

Complete air conditioning is provided in the administrative tower, the library and the gymnasium, while a good ventilation



*Front view of the Education Building,
University of Alberta, Edmonton.*

system with provision for a cooling system in the future is installed for the classrooms. The high pressure steam and the low pressure steam lines are brought from the main plant. Illumination is generally fluorescent lights.

The classroom wings are designed for the addition of two additional floors in the future, while the library is capable of having one extra floor added.

It is expected that this building will be ready for occupancy for the University term commencing September, 1963.



*Education Building, University of Alberta, Edmonton,
showing Gymnasium in the background*



Nuclear Research Building, University of Alberta, Edmonton

Nuclear Research Building, University of Alberta, Edmonton

This project is being carried out under the supervision of the Department of Public Works maintenance crews. The building is one of the first of its type to be built in Canada in that it houses the nuclear reactor in a vertical position. It also houses a 20 ton travelling crane which is installed at the ceiling to move the accelerator tank cover. The main shaft projects above ground approximately six stories and is sunk into the ground another 36 feet.

The building is supported by a very thick concrete foundation and all exterior walls are of reinforced concrete with brick veneer. Construction is expected to continue into 1963.

Mechanically, the building is divided into five general areas—the hot laboratory, storage machine room area, office and control areas, target area and tower. A low pressure steam convertor generates the hot water for the hot water heating system used to heat the building. The steam is obtained from the Physics Wing. The target area is heated by means of unit heaters. The hot laboratory is provided with a complete air conditioning system and has a dual system wired to maintain a constant exhaust. The office and central areas are fully air conditioned by a 15 ton fan coil with a remote roof mounted air-cooled condenser.

Structural Engineering Laboratory, University of Alberta, Edmonton

Construction of this building was started in February, 1963, and is located east of the existing Hydraulics Building. This building is part of a future Engineering Complex to be constructed on the Campus. Graduate students enrolled in the structural engineering programme of the Department of Civil Engineering will use the facilities of the laboratory. The load bed, the only one in Canada built to date, is to be used to test the strength of beams and columns of various materials.

The building is 112 feet by 89 feet wide. The main laboratory is 112 feet long by 61 feet wide and 35 feet high. The remainder of the building is divided into two floors with the offices being located on the second floor. The construction of the building is:

- (a) Concrete grade beams on piles.
- (b) Steel rigid frames and steel roof deck.
- (c) Brick veneer with concrete block backing.

The building is equipped with a 10 ton electrically operated crane in the main laboratory which is inter-connected with a monorail located in the secondary laboratory where small specimens are prepared for testing. This secondary laboratory is also equipped with large bins for storing various aggregates. An aggregate elevator and conveyor to fill the bins is also provided.

The building periphery is heated by wall hung hot water radiation and a fan coil unit supplies hot air from an under slab duct floor grille arrangement to the large glassed lobby areas. The laboratory area is ventilated by a make-up fan coil unit; this unit supplies fresh air to the occupied and test instruments zones while the air is exhausted at the dusty aggregate and testing zones. The offices are ventilated with provision made for installing future cooling equipment. The curing room is maintained at 100% humidity and 75° F. by an automatic hot and cold water mixing system.

The high voltage service feeding the building is an underground 4,160 volt service from the University underground distribution system. A transformer and sub-station is installed to feed the main low voltage distribution system. A complete mercury overhead lighting system is installed.

Student Health Services Building, University of Alberta, Edmonton

Construction continued on this project. The building is of reinforced concrete and masonry and wood frame construction. It provides accommodation for the medical services for University students and staff. This includes diagnostic and clinical facilities as well as a 20-bed in-patient hospital unit. There is a small kitchen with modest dining facilities and a suite for a resident matron. The building is designed to take an additional floor to double its bed capacity.

Student Housing Complex, University of Alberta, Edmonton

Tenders were received in August, 1962, for the Student Housing Complex on the University of Alberta Campus in Edmonton. These buildings consist of two eleven-storied residence buildings and the Food Services Building.

The Residences, which are of reinforced concrete and masonry construction, will provide accommodation for 609 students in each building. The majority of the students will be accommodated in double rooms while some single rooms are available on each floor. Each floor also has the usual complement of wash-rooms and bathrooms, and common lounge areas, together with a small kitchenette and hand laundry room and a study alcove. The main floor of each residence includes a Warden's suite, a library reading room, a small guest suite and a reception office, while the basement floor has a students' recreation room and music practice rooms. Each building is served with two high-speed passenger elevators. Finishes throughout the residences are modest. A third feature building of the same shape and size is allowed for in the planning.

The Food Services Building, which is of combined reinforced concrete and steel construction with masonry exterior, is designed to provide the dining room and additional lounge facilities



Food Services Building, University of Alberta, Edmonton, with one Student Residence under construction in the background.

for those students living in residence, as well as food services for the campus generally. The building is capable of seating 1,500 students at any one time. The main cafeteria which is provided with a "scramble" type servery can seat 900. The banquet room can accommodate 300, the private dining room can seat 50 while a 250-seat snack bar is located on the lower floor. The building is, therefore, sized to accommodate the whole population of the three student residences at two sittings for any one meal. In addition to the foregoing facilities, the building also provides accommodation for the Director of Student Housing and also serves as a distribution point for all main services to the residences buildings. The Food Services Building is fully air conditioned.

Alberta Liquor Control Board

Alberta Liquor Control Board Stores

New Liquor Stores have been designed and built this year for the Alberta Liquor Control Board at:

Blairmore
Mundare
Smoky Lake
Valleyview

and a new central warehouse at Drumheller. These Liquor Stores are similar in size and are of simple modern design. They have a pleasant attractive appearance and have as a result encouraged neighbouring merchants to up-grade the appearance of their buildings.

Construction has generally been of exposed concrete block with Glulam beams and wood deck roofing, native field stone or brick facing and some metal panelling has been used to harmonize with the local environment. The heating of these buildings is being accomplished by the use of gas fired furnaces and unit heaters.

Alberta Liquor Control Board Warehouse, Edmonton

Construction commenced on August 1st, 1962, on this project under the supervision of the Department of Public Works with all major sub-trades being tendered. The building consists of:

- (a) Main storage area (more than 100,000 square feet) served by a covered train loading dock and a covered truck loading area large enough to accommodate 20 semi-trailers of the largest highway size (Transport area—25,000 square feet).



Alberta Liquor Control Board Warehouse, Edmonton

- (b) A two-storied office addition to accommodate the head office of the Alberta Liquor Control Board and staff auxiliary services, workshops, mechanical services, etc. (total area—40,000 square feet).

The warehouse structure is of precast concrete which considerably speeded up the erection. For roof structure pre-stressed single "T" elements have been used of a maximum length of 124 feet. This is the longest span of that type of element ever used in Alberta. Completion of this warehouse is expected in October, 1963.

The building is a fireproof structure and is equipped with a sprinkler system. Special consideration for the office staff has been given by equipping the building with movable louvers, thus creating pleasant and comfortable working conditions, enhancing the exterior facade and reducing considerably the cost of operation of the air conditioning system during the period of extreme sunshine. The heating system for the main building is accomplished by a hot water circulating system. The hot water is being generated by two 250 horsepower boilers. 75% of the heating load is supplied by wall hung radiation and the remaining 25% is supplied by the hot deck of the central air conditioning system. Twelve unit chillers, each of 3 ton capacity and zoned into two groups, keep the beer cooler at an ambient temperature of 40°F. The site has been developed and paved to accommodate a parking lot and loading areas designed for the movement of large vehicles carrying loads for the warehouse and the installation of street lighting.

Mechanical Branch

This report covers the operation and maintenance of power plants and larger heating plants serving major Provincial Institutions and other establishments throughout the Province. These plants, now totalling eighteen in number (an addition of two in the past year), function to supply heat, power and utility services as required for the area.

The production figures shown in the statistical sheets indicate some levelling of demand at a few plants but in total reflect continued renovation and expansion of institutions in other areas. The following brief notes cover particular items of operation, maintenance and installation.

Bowden:

Bowden Institution

This is one of the larger heating plants transferred to this branch in 1958 for supervision and operation. It is with regret that we note the loss by death of another employee of this branch. Our Mr. L. W. Henry, Chief Engineer, passed away on April 29th, 1962, after some illness. His duties were carried on by Mr. W. M. Beattie, Shift Engineer, until mid-summer. Mr. D.

J. Thomas, transferred from the Baker Memorial Sanatorium plant at Calgary, was appointed Chief Engineer.

Calgary:

Baker Memorial Sanatorium

Installation of a new 25,000 pounds per hour deaerating type feedwater heater, together with a new boiler feed pump, has been completed. This equipment was purchased last year to replace a smaller open type heater and one of two feed pumps originally installed in 1919.

A replacement flow meter for one boiler was purchased and installed. A motor driven fuel oil pumping set of adequate capacity for stand-by firing of the boilers has also been purchased and installed. The old duplex steam driven pump, originally installed about 1919, is still in service as required.

A motor driven centrifugal vacuum pump of 40,000 square feet EDR rating, to replace smaller oil steam pumps, has been purchased and installed for the institution heating system. A similar pump of 20,000 square feet EDR rating was also purchased to replace obsolete equipment in the plant. Installation of this pump will be carried out next year.

Provincial Goal

As noted last year, this is a new plant and only fully in operation in late 1961. Various building construction projects and extension of utility service lines are in progress at the site. There are three boilers installed in the plant totalling 500 horsepower with space allocation for an additional 250 horsepower boiler when required. These boilers are fired only with fuel oil and consumption for the year exceeded 185,000 gallons. Installation of line and natural gas service for this institution is being planned by Public Works Engineers.

Southern Alberta Institute of Technology

All materials were purchased for the fabrication of an additional returns storage tank. The tank was constructed in place, all piping and covering done and is now in service.

Camrose:

Rosehaven Home

Normal operation and maintenance with nothing particularly out of order has been routine for the year at this plant. Steam and hot water loads of the plant, however, are a maximum for the equipment installed and there is little or no room for expansion. When any major building or renovation project may be planned for this institution, consideration must be given to construction of a new plant.

Claresholm:**Provincial Auxiliary Hospital**

This is one of our newer plants. Staffing and initial operation only commenced in 1960. Services output is increased over last year due to occupation of new patient dormitories and operation of the new laundry and kitchen establishments. Overall project construction is not yet completed at the institution.

Edmonton:**Belmont Rehabilitation Centre and Alberta
Institution for Girls**

Normal operation at these neighbour institutions, under direction of one Chief Engineer, has been routine for the year with only minor maintenance requirements and service loads little changed.

Legislative Buildings

Certain building alterations have been completed and some renovation of plant electrical distribution wiring has been done, all in connection with installation of larger capacity plant transformers, an emergency service 125 KVA diesel-electric generator set and load transfer panel. Installation will be completed and the unit available for operation early next year.

Additional generating and distribution panels for the plant 23 K.V. main switchboard have been purchased and received. Installation will be in the new year. Certain miscellaneous items of machine shop equipment, new and replacement, were purchased for plant maintenance work requirement.

South Edmonton Power Plant

Operation of this plant is now past the initial stage and services output is largely supplying the hospital and University of Alberta area. Steam output of the plant was approximately 380,000,000 pounds as compared to 155,000,000 pounds last year. Overall construction and installation of the plant, however, is not yet completed and the University of Alberta (north) plant is still maintained in reserve operation. A first steam turbo-alternator unit of 5,000 kilowatt capacity was delivered to the plant. Installation is near completion and initial trial operation is commenced.

Maintenance shop equipment including drill press, lathe, accessories, etc., have been purchased for the plant but late delivery of the equipment precludes installation this year.

A complete listing of spare parts to be carried in plant stock for the 2,200 kilowatt gas turbine unit, on order from England last year, has been received.

School for the Deaf

This plant, in operation since about 1956, was transferred to supervision of this branch on April 1st, 1962. Plant installation comprises two 245 horsepower heating boilers and one 73 horsepower high pressure boiler for kitchen, laundry and other service, together with auxiliaries, water heaters and absorption refrigeration system equipment for extensive building air conditioning. The plant is spacious, well lighted, painted and nicely kept in order. Some additional water heater and storage capacity is needed and has been requested.

Northern Alberta Institute of Technology

This school is a \$12,500,000.00 project with buildings covering a floor area of 15 acres and is now nearing completion. The Institute is planned to accommodate an ultimate of 10,000 students. Instruction was received in late 1961 for this branch to assume supervision and operation of the Services Building heating plant as construction and installation progressed. Our staffing of the plant commenced August 1st, 1962.

Plant installation comprises three 20,000 pounds per hour boilers with space allocation for an additional two boilers when required, together with all pumps, return tanks, storage water heaters, water softeners, air compressors, emergency 140 kilowatt gas/gasoline engine-generator set, etc. There is also installed a large incinerator in the building. The boilers are natural gas fired with fuel oil for emergency use. Electric power supply is from the City of Edmonton at 13,800 volt service.

Initial operation of the plant started September 16th, 1962, with light load, increasing only to part load by the end of March, 1963, as buildings were put into use. Steam generation for the past year, however, totalled approximately 50,000,000 pounds and electric power consumption 1,956,000 kilowatt hours, the latter at a cost of approximately \$16,500.00. These figures will be somewhat greater next year when the School is more fully opened.

Fort Saskatchewan:

Provincial Goal

The new 210 KVA engine-generator unit on order for this plant was received in late spring. The old 125 KVA unit, in service in three of our plants since 1926, was removed. The foundation was altered, the new set installed and connected to the switchboard. It has been in operation since December last. This generating unit should take care of normal electrical load increase for some years. There is, however, space allocation in the plant for a duplicate installation of this engine-generator set when required.

Lethbridge:**Provincial Goal**

Plant addition to house the new 15,000 pounds per hour boiler is under construction and will be completed in the new year. The boiler is moved into place and is ready for installation piping. A new 20,000 pounds per hour feedwater heater, feed pumps and other auxiliary equipment is purchased and delivered to the plant. Installation of this equipment and some renovation of old installation will commence in the new year.

Oliver:**Provincial Mental Institute**

Construction of plant addition to house the new 30,000 pounds per hour boiler is completed and the boiler is in place ready for all installation piping. It is scheduled for operation this coming early fall. Two centrifugal type vacuum pump units have been purchased and installed in the plant to replace an obsolete steam driven pump in service since 1911 and to provide some required additional capacity.

It is with regret that we note the loss, by death, of our Mr. Maurice Jenson, Chief Engineer at this plant. Mr. Jenson passed away quite suddenly of a heart attack on May 23rd, 1962. Mr. R. Cunningham, Shift Engineer, assumed the duties of Acting Chief Engineer until the late summer when the vacancy was filled by the appointment of Mr. Lorne Undershultz, a past fireman and engineer with the branch, as Chief Engineer.

Ponoka:**Provincial Mental Hospital**

Spare parts on order for the two 750 KVA Brown Boveri turbo-alternator units have been received and put into plant stock. Operation of these units is quite satisfactory and only routine running maintenance necessary to date. An additional tower service pump has been purchased and installed. This pump replaces an old unit taken out about 1950, duplicates two existing pumps and now provides adequate service to the institution.

Red Deer:**Deerhome Institution**

As noted last year, this is a new institution still in the development stage. The Power Plant Statistical sheet shows increase of electrical power consumption, water consumption and steam generated for the year. Power purchased was 3,247,000 kilowatt hours and steam generated totalled 96,534,000 pounds. Construction of the Seventh Ward and other buildings planned

will further increase these figures next year. Capital funds are provided for the purchase and installation of a base load steam engine-generator unit for this plant.

Provincial Training School

The 500 KVA turbo-alternator unit on order has been delivered to the plant. The foundation has been prepared and the unit moved into place and grouted. All switchboard apparatus for spare cubicle for the alternator has been purchased, installed and wired. A lube oil cooling tower for the machine is yet to be purchased. All piping and electrical connection to the switchboard will be done this coming summer for operation by early fall.

Two 48 inch diameter by 14 feet long Everdur (non-ferrous) storage type water heaters have been ordered and delivered to the plant. These are to replace old steel tank heaters and will be installed in the new year.

GAS, WATER AND POWER CONSUMPTION

at the below mentioned Heating Plants under the jurisdiction of the

MECHANICAL BRANCH—DEPARTMENT OF PUBLIC WORKS

for period April 1, 1962 to March 31, 1963

	HEATING OIL (Gallons)	GAS (Cu. Ft.)	WATER (Imp. Gallons)	POWER (Kilowatt Hrs.)	EXPENDITURE Plant Operation and Maintenance
Bowden Institute, Bowden .....	.....	37,596,000	12,675,000	765,800	\$ 73,222.02
Provincial Goal, Calgary	185,100	180,000	19,563,000	748,000	66,983.74
Rosdaven Home, Camrose .....	.....	47,434,000	12,155,000	667,900	72,149.96
Belmont Rehabilitation Centre, Edmonton .....	.....	26,884,000	3,737,000	417,300	45,537.73
Alberta Institute for Girls, Edmonton .....	.....	16,182,000	3,737,000	325,800	35,268.42
Alberta School for the Deaf, Edmonton .....	.....	36,118,000	6,475,000	941,000	55,354.92
Northern Alberta Institute of Technology, Edmonton	800	57,400,000	1,942,000	1,956,000	51,203.39
	185,900	221,794,000	60,284,000	5,821,800	\$399,720.18

Total Heating Oil Used	176,000 gallons
Total Gas Used	221,794,000 cubic feet
Total Water Used	60,284,000 gallons
Total Power Used	5,821,800 kilowatt hours

STATISTICS ON CAPITAL EXPENDITURES—PROVINCIAL GOVERNMENT POWER PLANTS
For Year Ending March 31, 1963
(F. E. COE—Mechanical Superintendent)

	Oil Storage Tanks, Water Storage Tanks, Heaters, Piping, Water Softeners, Pumps, Insulation	Generating Equipment, Engines, Switchboards, Wiring, Engine Foundations	Power Plant Mechanical Equipment	Installation of Boilers, Fans, Burners and Piping, Insulation, Controls, etc.	Atmospheric Condenser, Piping, Foundation, Insulation Controls	Building Extensions	Expenditure
Baker Memorial Sanatorium, Calgary	5,905.73	.....	.....	2,499.93	.....	.....	\$ 8,405.66
Southern Alberta Institute of Technology, Calgary	1,139.71	.....	.....	.....	.....	.....	1,139.71
Public Works South Power Plant, University Site, Edmonton .....	.....	9,267.93	6,557.26	.....	.....	.....	15,825.19
Legislative Building Power Plant, Edmonton .....	.....	25,151.13	591.32	.....	2,493.20	.....	28,235.65
Provincial Goal, Fort Saskatchewan .....	.....	35,154.11	.....	.....	.....	.....	35,154.11
Provincial Goal, Lethbridge	9,720.15	.....	.....	453.63	.....	12,701.43	22,875.21
Provincial Mental Institute, Oliver	3,376.75	.....	.....	16,172.17	.....	21,181.73	40,730.65
Provincial Mental Hospital, Ponoka	1,787.04	4,176.00	.....	.....	.....	.....	5,963.04
Provincial Training School, Red Deer	10,312.58	40,958.79	.....	.....	.....	.....	51,271.37
	32,241.96	114,707.96	7,148.58	19,125.73	2,493.20	33,883.16	209,600.59

